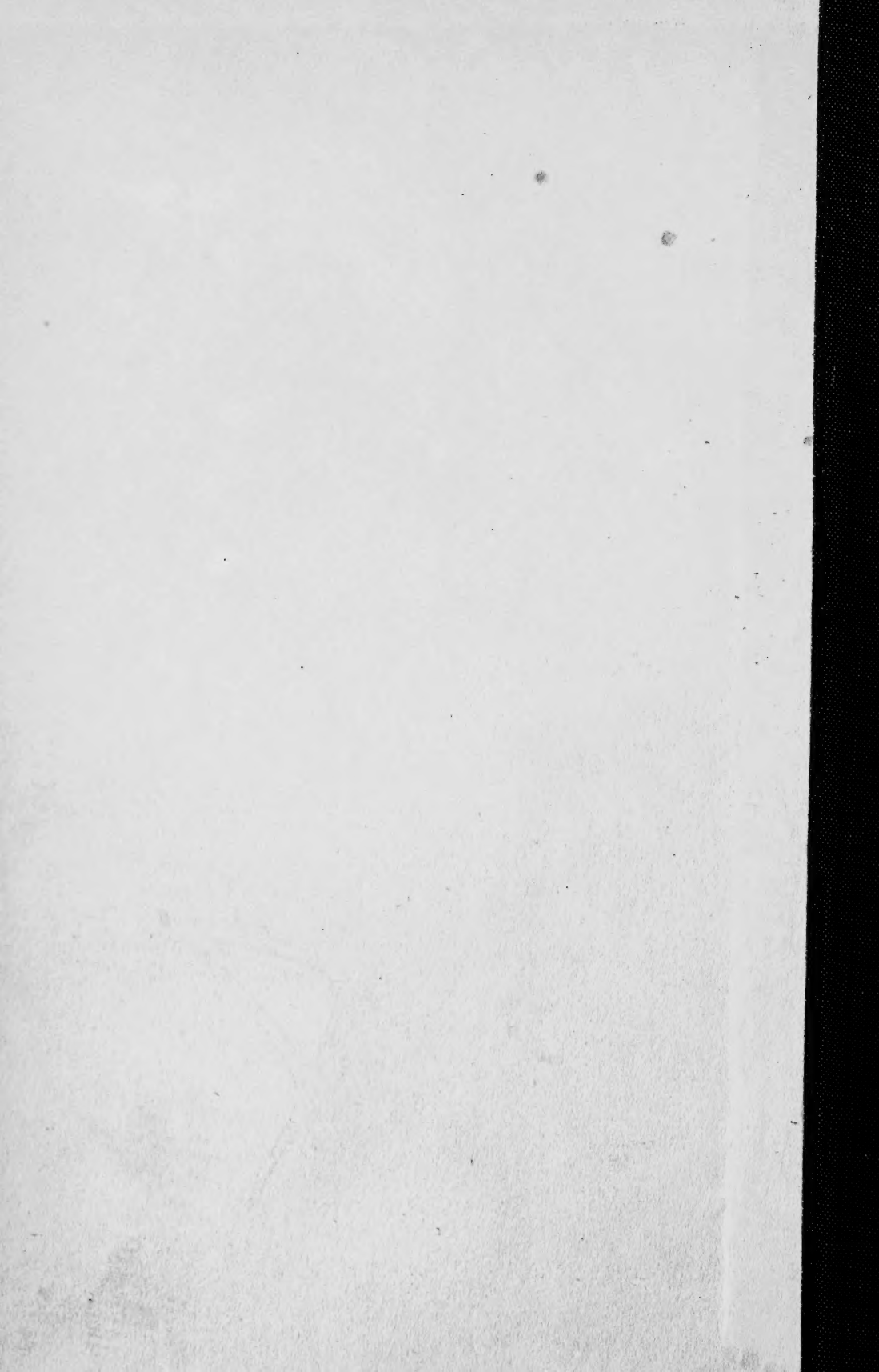
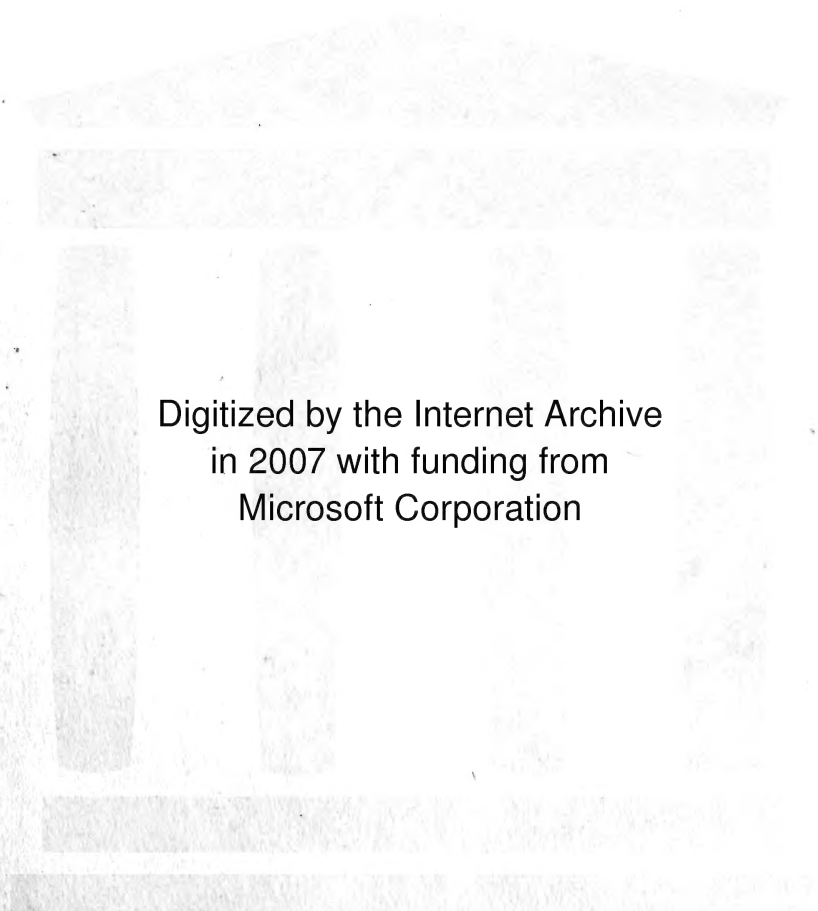




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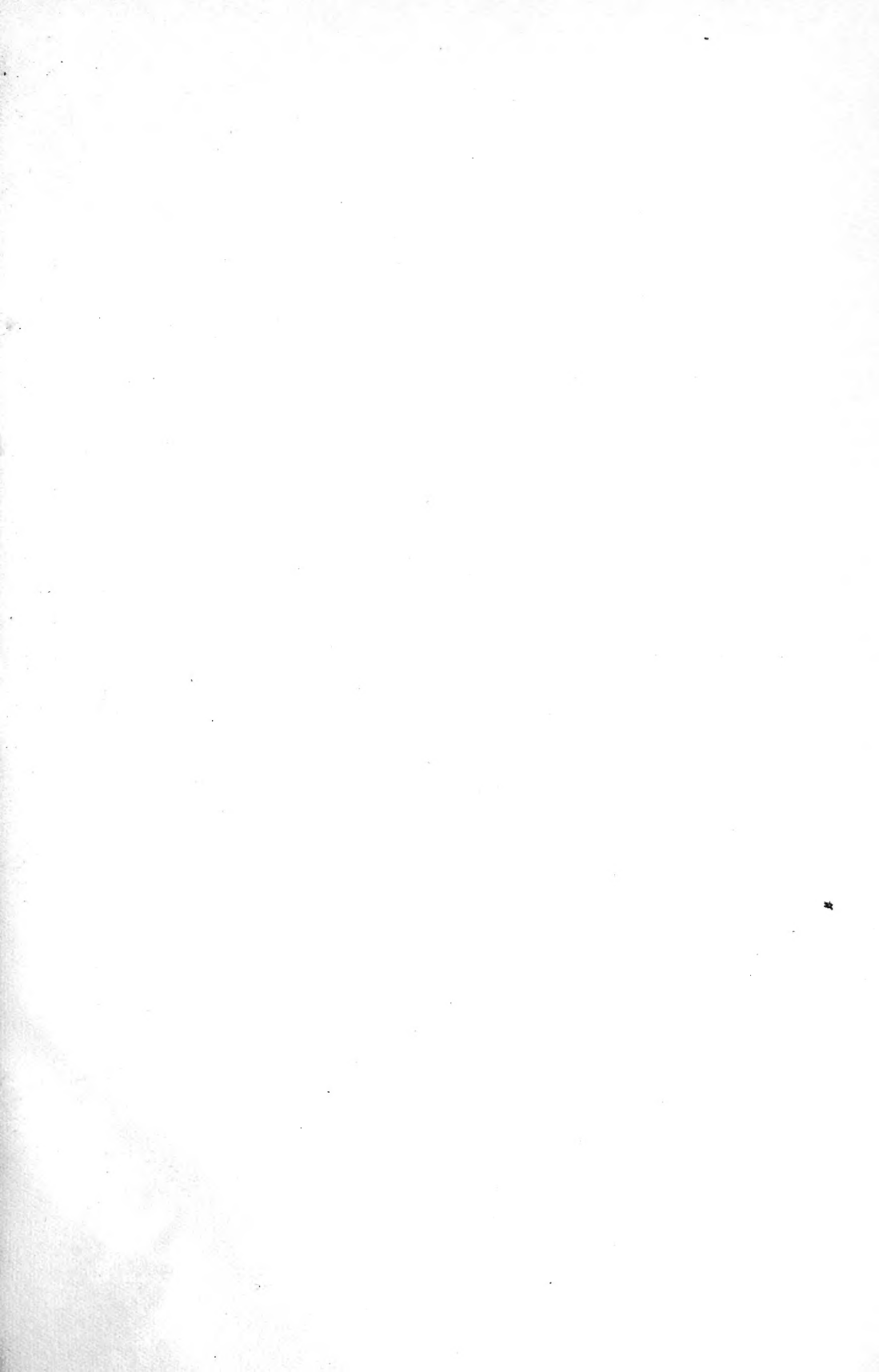




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Theodore Roosevelt

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APPLETONS'

ANNUAL CYCLOPÆDIA

AND REGISTER OF IMPORTANT EVENTS
OF THE YEAR

1901

EMBRACING POLITICAL, MILITARY, AND ECCLESIASTICAL AFFAIRS;
PUBLIC DOCUMENTS; BIOGRAPHY, STATISTICS, COMMERCE,
FINANCE, LITERATURE, SCIENCE, AGRICULTURE,
AND MECHANICAL INDUSTRY

THIRD SERIES, VOL. VI

WHOLE SERIES, VOL. XLI



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NEW YORK
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72 FIFTH AVENUE

1902

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Published March, 1902

P R E F A C E .

To Americans—and perhaps to many more than Americans—among the events of the year 1901 the death of President McKinley was at once the most significant and sorrowful. The present volume contains a sketch of his wonderful career from his boyhood to the sudden termination of his presidency. It also contains a sketch of the life of his successor in the chief magistracy, together with a full-page portrait. Other events of importance and interest to Americans are duly recorded in the articles “Congress,” “United States,” “Philippine Islands,” “Hawaii,” “Porto Rico,” and those on the various States of the Union. The most gigantic transaction that ever took place in the financial and industrial world is that of the formation of the great Steel Corporation, the story of which is told in the “Financial Review of 1901.” Two industries, perhaps developed to a greater extent in our country than in any other, are described and illustrated under the titles “Printing” and “Wire-Making”; while nearly all the industries of this Western World were abundantly set forth in the “Pan-American Exposition at Buffalo,” of which the reader will here find a good description, beautifully illustrated. While the typical American is thus accumulating money more rapidly than any other man on earth, he is also showing that he knows how to dispose of it so as to benefit his fellow mortals as well as himself. For proof of this, let the reader turn to the article “Gifts and Bequests,” where he will find an itemized account of more than a hundred million dollars given to philanthropic and educational causes in our country in the year that is here recorded. The cause of popular education as it progresses year by year may be studied under the head of Education in the several articles on the States, and in such other articles as those of “Libraries” and the “Fine Arts.”

Court decisions that affect the constitutionality or interpretation of statutes are recorded under the head of Supreme Court in the article “United States,” and also under Decisions in the State articles. The financial condition of the States and the nation may also be seen by reference to the articles just mentioned. The subject of irrigation, now most important in giving fertility to arid lands and increasing the food-crops of the world, as it progresses year by year, may be studied by looking at the articles on the Western States.

Governmental, insurrectionary, and industrial movements in the various countries of the world are recorded in the articles on those countries, some of which are of special interest as a part of the history of the first year of our century. The change of sovereign in Great Britain, the continued war in South Africa, the beginning of peaceable settlement in China, and the federation of the Australian provinces are among the most notable of these.

The volume contains, as usual, an article on each of the great religious denominations, together with articles on such of the smaller ones as have recorded and pub-

lished statistics; and from these the growth of religious life and missionary enterprise may be studied to advantage.

In the articles "Archeology," "Astronomy," "Chemistry," "Metallurgy," and "Physiology" these sciences are recorded in their latest developments; but perhaps the most wonderful result of science this year is to be found under the head of "Medicine," where the experiments proving that malaria and yellow fever are communicated to human beings through mosquitoes are fully set forth.

Among the special articles are one on the comparatively new industry of "Automobiles," illustrated, with their latest developments; one on artistic "Bookbinding," also illustrated; one on the new enterprise of "Rural Free Mail Delivery"; and one on the recent events in "Yachting."

The death roll of the year is unusually long, and contains many names familiar to our readers. Among the authors we have lost are William E. Channing, Joseph Cook, Ignatius Donnelly, John Fiske, Edward H. House, John G. Nicolay, Charles Nordhoff, Mary A. Townsend, Walter Besant, Robert Buchanan, Mandell Creighton, Félix Gras, Hugh R. Haweis, John Cordy Jeaffreson, Cosmo Monkhouse, Frederic W. H. Myers, Paul Silvestre, and Charlotte M. Yonge; among the actors, Louis Aldrich, James A. Herne, Fanny Morant, Roland Reed, James B. Roberts, Edmond Got, James H. Mapleson, Harry Monkhouse, and Osmond Tearle; among the artists, Jane H. Hammond, James M. Hart, Adolf R. Kraus, Edward Moran, Julian Scott, James E. Taylor, Edward Ford, and Kate Greenaway; among the clergymen, Maltbie D. Babcock, Frédéric Denison, John Jacob Esher, Justin D. Fulton, John Jasper, Thomas N. Lenihan, Abram N. Littlejohn, William McDonald, and Henry B. Whipple; among the educators, Herbert B. Adams, John Thomas Duffield, Robert Graham, Richmond Mayo-Smith, Frederick A. Muhlenberg, Truman H. Safford, and Joseph Henry Thayer; among the explorers, Édouard Foa and Adolf Nordenskiöld; among the inventors, William F. Coston, Elisha Gray, David S. Holman, Thaddeus Hyatt, George Kellogg, and Lorenzo W. Kimball; among the legislators, Charles A. Boutelle, James W. Bradbury, James A. Kyle, Cornelius R. Parsons, Hiram R. Revels, and William J. Sewell; among the philanthropists, Elizabeth D. Gillespie, Margaret E. Crocker, Mrs. Egbert Guernsey, Tom Mosby, Henry V. A. Parsell, William A. Passavant, and Elizabeth Hanbury; among the publishers, G. W. Carleton, Patrick Donahoe, Alexander C. McClurg, and Lewis A. Roberts; among the scientists, Clarence King, Joseph Le Conte, Henry A. Rowland, Charles A. Schott, William J. Youmans, George M. Dawson, Rudolf Koenig, and Eleanor Ormerod; among the statesmen, William M. Evarts, Benjamin Harrison, the Duke de Broglie, Francesco Crispi, Prince Hohenlohe-Schillingsfürst, Marthinas Pretorius, and Li-Hung-Chang; among the soldiers, Daniel Butterfield, George W. Getty, John P. Hatch, James S. Negley, Robert Nugent, Fitz John Porter, Benjamin M. Prentiss, and Joseph Gurko; among the naval officers, Francis M. Bunce, John Irwin, Richard P. Leary, Thomas S. Phelps, and Francis A. Roe; among the composers and dramatists, Edmond Audran, Paul Barbier, Pierre Benoit, and Giuseppe Verdi.

The celebration of the two hundredth anniversary of Yale University is recorded, with a full-page portrait of the new president of that institution, Arthur Twining Hadley. There is also a full-page portrait of Li-Hung-Chang, the famous Chinese statesman, and full-page illustrations of the Pan-American Exposition, the New York subway, and the yacht races. The volume closes with a complete index.

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THE ANNUAL CYCLOPÆDIA.

A

ABYSSINIA, an empire in eastern Africa, known also as Ethiopia. The ruler, whose title is Negus Negusti, meaning King of Kings, is Menelek II, formerly King of Shoa, who succeeded Johannes II. The Italians, who furnished him arms with which he defeated rival claimants of the throne, obtained the treaty of Ucciali on May 2, 1889, under which they claimed a protectorate over all Abyssinia as well as sovereignty in the territories north of Tigre and inland from Massowah which before they were occupied by Italy were dependencies of Abyssinia. Menelek denied the protectorate, and on March 1, 1896, his troops routed at Adowa an Italian army that invaded Tigre and Amhara. Through the mediation of Russia a new treaty was signed on Oct. 26, 1896, by which Italy renounced the protectorate over Abyssinia and Menelek recognized as Italian territory all the country north of the Mareb, Balesa, and Muna rivers.

The area of Abyssinia, including Tigre and Lasta in the north, Amhara and Gojam in the center, and Shoa in the south, with Gallaland and parts of the Somali country and undefined regions in the south and west, is between 150,000 and 250,000 square miles. The population under the rule of the Negus is estimated at 3,500,000. Abyssinia and Great Britain both claim the region north of British East Africa in which Lake Rudolf is situated, extending as far south as 2° of north latitude, and the western territories to the banks of the White Nile are also claimed by Abyssinia. The Negus has a regular army of about 150,000 troops and can command the services of the irregular troops and tribal levies of his vassals. The active troops consist partly of trained soldiers armed with Vetterli, Gras, Snyder, and Remington rifles, and partly of men armed with native weapons who have lands given to them to pay for their services. The cavalry are recruited among the Wollo Gallas. The Negus has imported 500,000 repeating rifles of the latest pattern.

The Abyssinians, who have been Christians of the Alexandrian rite since the fourth century, raise cattle, sheep, and goats, practising agriculture but little. Coffee and cotton grow wild. The vine and the date-palm thrive. The sugar-cane and barley, millet, and wheat are grown for domestic consumption. Hides and skins, coffee, wax, gums, dyes, medicinal plants, and civet are exported. Gold from the Wallega country and ivory are royal monopolies. American, some Indian, and small quantities of English cotton goods are imported, the American unbleached cottons constituting half of the total imports, which include also woollens, matches, cutlery, etc. Mene-

lek's capital is Adis Abeba, which has a permanent population of 50,000 and a floating population of 30,000. The currency of the country is the Maria Theresa dollar and a new one coined by Menelek having the same size and value. Coins representing a half, a quarter, an eighth, and a twentieth of a dollar have been minted, and are in circulation, although at first the people regarded them with distrust. Previously the only medium of exchange of less value than a dollar was the amule, which was three pounds of salt, worth 60 cents. In 1880 the whole foreign trade of the country did not exceed \$80,000 in value. Now the imports into Harar alone, the chief commercial town, are \$2,800,000 a year, and the exports \$1,400,000. This trade passes through Jibute, Abyssinia possessing no seaport. This French town, though but a few years old, has 12,000 inhabitants, of whom 1,000 are Europeans. It is the outlet of trade routes from various parts of Abyssinia. A railroad, 184 miles long, from Jibute to Harar, has been built with French capital. It was completed before the end of 1901, having been constructed in two years at a cost of \$6,000,000. The Italian railroad from Massowah will be extended into Tigre, giving to northern Abyssinia an outlet through that seaport. The victory of Menelek in the war with Italy stimulated the internal progress of Abyssinia and trade relations with the rest of the world, which have been facilitated by French enterprise at Jiboutil. The reconquest of the Egyptian Soudan by the British has given a fresh impetus to this rapid development. An Italian company in 1901 built a telegraph line from Massowah to Adis Abeba, Menelek's capital, which is connected by rail with Adis Halem.

The boundary between Abyssinia and the Italian colony of Erythrea has been settled by agreement. The boundaries separating Menelek's dominions from British East Africa in the south and from the Egyptian Soudan in the west have been the subject of protracted negotiations with Lieut.-Col. Harrington, the British political agent and consul-general at Adis Abeba. Count Leon-tieff, a Russian, who explored and occupied the equatorial province of Abyssinia for Menelek, was, early in 1901, appointed its governor and commander in chief of the forces to be raised there. He returned to this region that he had annexed or regained, taking with him a force of Arab and Soudanese soldiers and large quantities of weapons and military and hospital stores that came from Russia, and was joined on the march to Lake Rudolf by a regiment of Ethiopian soldiers raised and trained by Cossack officers during his former sojourn in that country, which he

had led victoriously against the enemies of Menelek in the region disputed by Great Britain. In 1900 King Menelek requested the co-operation of the British in suppressing a fanatical Mohammedan mollah who was disturbing the peace among the tribes on the borders of the British Somaliland protectorate and the Abyssinian dominions. A combined movement of British and Abyssinian troops was arranged. Haji Mohammed ben Abdullah, known as the Mad Mollah, an Ogaden Somali about thirty years old, educated as a wahad, or theologian, a disciple of the Sheikh Mohammed Saleh, the head of the mystic order of Tarika Mohamalia at Mecca, persuaded many of the Somalis that he was the incarnation of the prophet, appointed by the divine will to regenerate the people of his race and establish an independent kingdom. Having acquired much influence among the Ogaden and Dolbohanti tribes as a holy man who had made several pilgrimages to Mecca, he organized a body of dervishes who plundered other tribes on both sides of the border. When the mollah began to subjugate the Somalis of Abyssinia, while maintaining a conciliatory and submissive attitude toward Great Britain, the British at Berbera looked with favor upon the movement, which the French and Russians accused them of fostering. The British authorities were inclined to encourage the new sect in their own territory so long as its leader was simply a religious teacher, enjoining regularity in prayers and other rites, and while his influence was exerted to allay feuds among the tribes and he himself delivered up malefactors for punishment. The people of Berbera would not listen to the strict teachings of the new sect, which interdicted the use of the leaf *kat*, the favorite-intoxicant of the coast Somalis, but the tribes of the interior fell under the mollah's influence. At first he abstained from raiding antagonistic tribes in the British protectorate or interfering with the caravan trade, but after the Habba Unis joined him he sent a defiant message to Col. Hayes Sadler, the British consul-general at Berbera, and took up an attitude of hostility toward all those who had dealings with the British authorities, denouncing the British Government and all who acknowledged it as infidels. In the autumn of 1899 he advanced to Burao, 90 miles south of Berbera, with a force estimated at 2,000 horsemen and 3,000 spearmen, with 400 rifles among them. He burned the town of a section hostile to his religious teachings, and established himself in the plain, threatening Berbera itself, and gaining many adherents by his successes, which were attributed to miraculous power. The ignorant believed that he could turn bullets into water and hear all that was said about him in distant places. While the British were making preparations to crush his force with troops from India he retired in November, 1899, to the Dolbohanti. The British thereupon suspended their preparations. The local authorities urged immediate action, saying that the power of the mollah would grow rapidly if the expedition were deferred. The Imperial Government nevertheless deemed delay expedient in view of the state of affairs in other parts of the world. At Burao, Mohammed Abdullah proclaimed himself the true Mahdi, and announced that all Mohammedans who refused to join him were no true believers. He claimed to rule all central Somaliland, acknowledging no British authority excepting on the coast. His unchecked reprisals against tribes which were friendly to the English caused them to waver and to doubt the power of Great Britain to protect them. After looting far and

wide the tribes who still professed loyalty to Great Britain, and killing a powerful chief who warned him of the fate which awaited him at the hands of the British Government, he retreated to the country of the Ibrahim tribe of northern Ogaden, and from that base extended his influence among the tribes on the Abyssinian frontier, seizing the head men and cattle of the tribes that refused to join him. Ras Makonen, the Governor of Harar, sent an expedition of 1,500 men to put a stop to his depredations. Early in 1900 the mollah attacked the Abyssinians at their frontier post of Jig Jiga, but was repulsed with heavy loss. Then he returned to Ogaden and began to raid tribes friendly to the English and the nomadic Somalis who move with their herds back and forth between British and Abyssinian territory according to the state of the pasturage. The raids of his horsemen checked trade and peaceful industry and led to the joint Anglo-Abyssinian expedition, the plans for which were agreed upon in December, 1900. It was arranged that English officers should accompany the Abyssinian expedition and an Abyssinian officer be present with the British force, and that during the operations the frontier between Abyssinian and British territories should be regarded as non-existent. Col. Hayes Sadler set about the organization of a force of Somalis, which was not ready for operations till the end of March, 1901. The Somali frontier force, trained and commanded by Col. Swayne, consisted of 1,000 infantry, 400 mounted spearmen, and 100 camel sowars. The Abyssinians had 10,000 men under Ras Makonen assembled at Jig Jiga a month before the British were ready to act. They marched southeastward, and after a series of skirmishes in the Harradigit district, and the capture of the enemy's camp at Walwal, with great numbers of camels, sheep, and goats, they drove the mollah out of Ogaden, which they raided to avenge a defeat that they suffered five years before, when 6,000 Abyssinians fell in battle. They could not now remain long in this arid country, and fell back in order to reorganize their force in time for the combined movement with the British. They endured great privations, inasmuch as it was the dry season of the year, and the few wells had been closed by the mollah and were only reopened with difficulty. Many stragglers returned in a famished condition to Harar. The force encamped round the wells of Gerloguby, where they held their ground when attacked by the dervishes. They waited until the rains came to enable them to advance, with 8,000 troops accompanied by 25,000 followers and as many pack animals, across the desert 300 miles to the forest region of Dolbohanti in British territory where the mollah had taken refuge. The British force when able to take the field in May advanced from Burao in the direction of Dolbohanti. Ras Makonen had waited impatiently for the British, and was about to recall his troops from Ogaden, where they suffered greatly from disease and privation. When the British did move he organized a fresh force of picked Abyssinian warriors from Harar to relieve these exhausted troops, who were mostly Somalis led by the Gabri of Fi Taurari. The fresh Abyssinian expedition concentrated at Dagaha Mado, 150 miles south of Harar. It consisted of 10,000 men and horses, with a vast number of camp-followers and baggage animals, and was commanded by Abanabro, whose title was Kanyazmach, or commander of the right wing.

The British, when prepared to move from their advanced base, still delayed operations until they could obtain information as to the movements

of the Abyssinians. While the Somali field force was being organized and trained an Anglo-Indian expedition set out from Kismayu to punish the southern Ogaden Somalis for the murder of an English official (see EAST AFRICA). The influence of the Mad Mollah had penetrated to this remote quarter, and his complicity in this crime was suspected.

The Somalis are an intelligent, athletic, warlike race, supposed to be Gallas by descent, modified by a large admixture of Arab blood. Along the entire coast known as Somaliland they have pushed back the Gallas and gained the predominant position of controlling the outlets to the sea and possessing a monopoly of the trade from the interior. They are proud and conceited, and believe that if they were supplied with rifles as the Abyssinians have been they would become a powerful nation. Under European training they make excellent soldiers. The Mad Mollah professed friendship for the English until some of his adherents plundered a hunting expedition and captured many rifles which he was unwilling to restore. The Somali weapons are long-shafted spears with leaf-shaped heads, javelins which they throw with accuracy to a distance of 40 yards, and double-edged, sharp-pointed, curved swords. The army that Mohammed Abdullah had collected for the jihad or holy war that he proclaimed against Christianity was estimated at 40,000 men. He had obtained 3,000 rifles of various patterns, and was well supplied with ammunition. His cavalry numbered about 8,000, and were the most formidable part of the force, mounted as they were on the Somali horses, that can cover 75 miles without water.

When communication was established between the British and Abyssinian forces both advanced, the Abyssinians along the Fafan river after concentrating at Gabro, the British from Burao to Ber and El Dab, from which place the camel corps and mounted infantry made a rapid night march through the desert and on May 29 surprised the Madoba and Jama tribes, capturing 2,800 camels and 5,000 oxen and sheep that were intended as supplies for the mollah, whose scouts were encountered at Assura on June 2. The mollah meanwhile made a flank march and attempted to recapture the animals from the zareba at Somala, where he was repulsed by Capt. MacNeill, losing several hundred men. Col. Swayne, an officer possessing more knowledge of the Somalis and their ways than any other Englishman, and who had made an efficient force of his Somali recruits, equal in many respects to the best European soldiery, delivered an attack on the mollah's troops as they were returning to their camp at Yahel, taking them by surprise. When they turned, the camel corps and mounted troops pressed them and with hot rifle and mitrailleuse fire emptied many saddles. The mollah and his troops made good their escape, although pursued for 40 miles. On June 3 the Somalis made another attack on Capt. MacNeill's zareba with 3,000 cavalry and 2,000 spearmen, pressing on in close order and almost succeeding in their effort to penetrate the zareba in spite of the hail of rifle and Maxim balls that killed over 400 of their number, while on the British side only 10 men were killed and 9 wounded. The faith of the Somalis in the religious mission and supernatural powers of the mollah was broken by the result of these engagements. The Jamas, who had borne the brunt of the last fight, made their submission, and many of the Dolbohantis deserted to the British, who had trained men of their own kind to win victories when outnumbered a dozen to

one. The Abyssinian army arrived at Gerloguby on June 11 and aided in confining the mollah to the Dolbohanti country, whence he was driven into the country of the Mijertain Somalis, the last to join his standard. The Abyssinians were able to march 20 miles a day for any length of time, but when the food that they brought with them was exhausted they could not find subsistence for their great number in so poor a country. They attacked tribes that had submitted to the mollah, but in the end were compelled to return to their own country in a thoroughly exhausted condition. The force of Col. Swayne was capable of dealing with the mollah, whose prestige was destroyed, and whose army was reduced to about 2,000. Operating from Burao, the British force routed Abdullah on July 17 near Hassan Ughaz, and drove the remnant of his army into the Haud desert. The British force included a contingent of Indian troops, and the Somalis of Col. Swayne had been taught to shoot as well as European troops, whereas the rifles in the hands of the mollah's men were almost useless. Nevertheless they fought courageously and killed or wounded 2 British officers and 32 men, losing 70 killed and many wounded. The mollah's camp and live stock fell into the hands of the British, and he disappeared in the Mijertain country, his power and influence utterly destroyed.

AFGHANISTAN, a monarchy in central Asia, lying between Russian Turkestan and British India. The Ameer, Abdurrahman Khan, who was enthroned in 1880 by the British after they



HABIBULLAH KHAN,
AMEER OF AFGHANISTAN.

had occupied Cabul, the capital, and driven out Yakub Khan, son of Shere Ali, the preceding Ameer, died Oct. 3, 1901. Since 1880 the Indian Government has paid an annual subsidy — first 1,200,000 rupees and in 1893 increased to 1,800,000 rupees — to enable Abdurrahman to consolidate his kingdom and preserve a strong, united, and independent Afghanistan as a buffer state between India and the Russian dominions. The area is about 215,400 square miles, with 5,000,000 inhabitants. Every eighth man is drafted into the Ameer's army, which has a strength of over 60,000. The regular paid troops garrisoning Cabul, Herat, Candahar, and Afghan Turkestan numbers 37,000 infantry and 7,000 cavalry, with 360 pieces of artillery. Silks, sheepskin garments, carpets, fabrics of camels' and goats' hair, felts, and rosaries are manufactured. Fruits, including apples, pears, almonds, peaches, quinces, cherries, grapes, pomegranates, apricots, figs, and mulberries, are abundant and are exported in the preserved state. Asafetida, madder, and castor-oil are exported. Rice, millet, maize, wheat, barley, and legumes are cultivated. Copper, lead, iron, and gold are mined in primitive fashion, and in Badakshan lapis lazuli and precious stones are obtained. The imports of Cabul from India were

valued at Rx 294,605, and exports Rx 217,236; imports of Candahar were Rx 329,917, and exports Rx 263,884. The trade of Bokhara with Afghanistan amounts to about 4,000,000 rubles



ABDURRAHMAN KHAN,
LATE AMEER.

for imports, and for exports the same. The Ameer gave his attention not only to the military organization of his people for defense against either Russian or British aggression, but also to the economical development of the country. Under the direction of an English engineer canals and other irrigation works have been constructed. Forts have been built along the Oxus,

and heavy Krupp guns have been imported. The arsenal at Cabul turns out small arms in quantities, and smokeless powder.

ALABAMA. (See under UNITED STATES.)

ALASKA, a Territory of the United States, in the extreme northwestern part of the North American continent. It was ceded by Russia to the United States in a treaty concluded March 30 and proclaimed June 20, 1867, in consideration of the payment of \$7,200,000. Its gross area, according to the census of 1900, is 590,884 square miles. The main body of the Territory is bounded on the east by the one hundred and forty-first meridian west from Greenwich, on the north by the Arctic Ocean, on the west by Bering Sea and Bering Strait, and on the south by the Pacific Ocean. It includes also the Alaska peninsula and the Aleutian Islands, trending southwestward for more than 1,200 miles; and a strip, known as Southeast Alaska, 600 miles long, bounded on the south by Dixon Sound and Portland Channel, and on the east by the summit line of the mountains parallel to the coast; and where such a line is at a greater distance than 10 marine leagues (34½ statute miles), by a line drawn parallel to the windings of the coast, which shall never exceed 10 marine leagues therefrom. The position of the boundary of this southeastern extension is now a matter of dispute between Great Britain and the United States.

Government.—Alaska was without civil government from the time of its purchase till May 17, 1884, when it was made a "civil and judicial district." Although frequently designated as a Territory, it is not so legally. In the act referred to above it is expressly stated that "there shall be no legislative assembly in said district, nor shall any delegate be sent to Congress"; but in the same act it is referred to as the "Territory of Alaska." The original laws prohibited the importation, manufacture, and sale of intoxicating liquors, except for medical, mechanical, and scientific purposes; and although liquor was openly sold in Sitka, Juneau, Wrangel, and other cities, public sentiment was strongly against the sale of liquor to the Indians. In January, 1899, Congress passed an amendment providing for a high-license system in the Territory with a species of local option. Liquor dealers by its provisions are to pay a license of \$1,000 a year, and the consent of

a majority of the white citizens residing within two miles of a liquor-dealer's establishment must be obtained before a license can issue. All license fees are to be devoted to educational purposes in Alaska. The former prohibition is continued against the sale to Indians, minors, and habitual drunkards.

The new code of criminal procedure went into effect on July 1, 1899, and it has been of the greatest advantage to the Territory. It gives the court much more liberty in obtaining juries; has enabled the enforcement of the liquor regulations; and has made smuggling an unprofitable occupation. The only sections that have met with serious complaint are those relating to the taxation of businesses and trades. A Territorial convention met in Juneau in October, 1899, and submitted a memorial to Congress petitioning for two additional judges of the district court; for a delegate to Congress; for probate judges having, in addition to the usual probate powers, jurisdiction in certain civil and criminal cases; for commissioners having the jurisdiction of the justices of the peace and magistrates with like powers for incorporated cities and towns; for education of the white children of the district; for a civil code and a code of civil procedure; for amendments to the criminal code; for a general municipal incorporation law; for the extension to the district of homestead, timber and stone and coal land laws, with provisions for special individual surveys, and for modifications in the mineral-land laws to stop the wholesale appropriation by a few individuals of the public mineral lands.

Gov. Brady in his annual reports has specially urged the extension of the land laws, the adoption of a code of civil procedure, and the necessity for roads, telegraphs, and the erection of lighthouses upon dangerous points of the coast.

The temporary seat of government is at Sitka, formerly the Russian capital.

The following were the officials of the Territory in 1901: Governor, John G. Brady. United States Judges—Melville C. Brown, District No. 1, Juneau; Arthur H. Noyes, District No. 2, St. Michael; James Wickersham, District No. 3, Eagle City. United States Attorneys—Robert A. Friedrich, District No. 1; Joseph K. Wood; A. M. Post, Clerk, District No. 1, Joseph J. Rogers. United States Marshals—James M. Shoup, District No. 1; Cornelius L. Vawter, District No. 2; G. G. Perry, District No. 3. Commissioners—Edward de Groff, Sitka; Hiram H. Folsom, Juneau; F. P. Tustin, Fort Wrangel; L. R. Woodward, Unalaska; Philip Gallaher, Kadiak; C. A. Shelbrede, Skagway; W. J. Jones, Circle City; Charles H. Isham, Unga; Lenox B. Shepard, St. Michael; Sol Rapinsky, Haines Mission; J. P. Smith, Kechikan; L. R. Gillette, Douglas. Officers of Marine Barracks, Sitka—Capt. Joseph H. Pendleton, commanding, Lieut. George H. Mather, Surgeon Henry B. Fitts. Customs Officers—J. W. Ivey, Collector; Walton D. McNair, Special Deputy, Sitka; Deputy Collectors—F. E. Bronson, Sitka; John M. Tenney, Juneau; J. H. Causten, Wrangel; John R. Beegle, Kechikan; Claude B. Cannon, Kadiak; Frederick Sargent, Karluk; J. F. Sinnot, Unga; William Gauntlet, Unalaska; E. T. Hatch, St. Michael; Charles Smith, Circle City; G. A. Waggoner, White Pass; John Goodell, Orea; C. L. Andrews, Skagway; S. T. Penberthy, Homer; Matthew Bridge, Wharfinger, Sitka. Department of Agriculture—C. C. Georgeson, Special Agent; Superintendents—Fred E. Rader, Sitka; H. P. Nielson, Kenai; Isaac Jones, Bureau of Education—Sheldon Jackson, Agent; William Hamilton, Assistant Agent; W. A. Kelly,

Superintendent of Schools. Post-Office, Sitka—Mrs. A. M. Archangelsky, Postmaster. United States Land Office, Sitka—W. L. Dustin, Surveyor-General; John W. Dudley, Register; A. J. Apperson, Receiver; Clinton Gurnee, George W. Stowell, Clerks. Deputy Marshals—W. H. McNair (special), J. W. Snook, Sitka; W. A. Staley, Juneau; William D. Grant, Wrangell; John McElheny, Douglas island; Edward C. Hasey, Kadiak; Lewis L. Bowers, Unga; James C. Blaine, Unalaska; Josias M. Tanner, Skagway.

Population.—The native population belongs to two great stocks, the Eskimo and the Indian. The former inhabit some of the Aleutian Islands and the shores of Bering Sea and the Arctic Ocean; the latter occupy the interior and south-eastern portion of the Territory. The greater part of the Russians emigrated at the time of the transfer of Alaska to the United States. The development of the gold-fields of the Yukon basin and the Cape Nome district has brought a large increase in the white population in recent years. Where the natives have come into contact with the whites there are many half-breeds. The total population of the Territory according to the census of 1880 was 33,426; in 1890 it was 32,052. The census of 1900 was taken under much more favorable conditions than had been possible before, owing to the greatly increased facilities for communication, and to the energy and special knowledge of the agents in charge of the work. The total population was 63,592, an increase of 31,540, or 98.4 per cent., over that of 1890. This was distributed according to sex, race, and nativity as follows:

RACES.	Totals.	Male.	Female.
Whites, native-born.....	21,709	19,171	2,538
Whites, foreign-born.....	8,798	8,136	662
Natives *.....	29,536	15,048	14,488
Negroes.....	168	151	17
Chinese.....	3,116	3,113	3
Japanese.....	205	253	12
Totals.....	63,592	45,872	17,720

* Includes 2,449 persons of mixed parentage.

Classified according to school, militia, and voting ages, the distribution was as follows:

RACES.	SCHOOL AGE, 5-20 YRS.			Militia age, males 18-44.	Voting age, males over 21.
	Total.	Male.	Female.		
Whites.....	17,119	1,040	679	13,331	25,966
Indians, negroes, Chinese, and Japanese	9,689	5,009	4,680	6,372	11,990
Totals.....	11,408	6,049	5,359	19,703	37,956

Of the 78 settlements named in the census report, 37 have less than 200 inhabitants; 31 have more than 200, but less than 500; 6 have more than 500, but less than 1,000; and 4 only have more than 1,000—namely, Nome, with 12,486; Skagway, with 3,117; Juneau, with 1,864; and Sitka, with 1,396 inhabitants. Other important centers of white population are: Wrangle, 868; St. Michael, 857; Douglas, 825; Unalaska, 428; and Kadiak, 341.

Banking.—The only national bank in Alaska is the First National Bank of Juneau: Its condition, as reported to the Comptroller of the Currency at the close of business, July 15, 1901, was: Resources: loans and discounts, \$54,319.91; United States bonds, \$87,500; banking-house, furniture, and fixtures, \$2,480; due from other national banks, \$4,075; due from State banks and bankers, \$19,034.72; specie, \$37,207.60; other re-

sources, \$21,823.24; total resources, \$226,440.76. Liabilities: capital stock, \$50,000; surplus and undivided profits, \$3,069.79; individual deposits, \$105,125.60; United States deposits, \$36,726.97; deposits of United States disbursing officers, \$26,668.40; other liabilities, \$4,850; total liabilities, \$226,440.76. At the corresponding date in 1900 the total liabilities were \$169,840.85, distributed as follow: Capital stock, \$50,000; surplus and profits, \$1,964.88; individual deposits, \$64,710.22; deposits of United States disbursing officers, \$46,231.14; other liabilities, \$6,934.61. The resources: loans and discounts, \$53,457.21; United States bonds, \$62,500; due from banks, \$17,565.60; specie, \$20,245.30; other resources, \$16,072.

There are no official statistics for banks other than national. The American Bank Reporter for May, 1901, reports the following banks in operation in the Territory: Juneau: B. M. Behrends (private), capital \$50,000. Nome: Bank of Cape Nome (incorporated), capital \$200,000; Alaska Banking and Safe-Deposit Company (incorporated), capital \$75,000; First Bank of Nome (organizing). Skagway: Bank of Alaska (private), deposits \$20,000; Canadian Bank of Commerce (agency).

Commerce and Navigation.—Alaska forms a single customs district of the United States, with Sitka as its port of entry. The following are classed as supports of entry: Dyce, Eagle City, Wrangell, Mary Island, Juneau, Kadiak, Unalaska, Circle City, Cook Inlet (Homer), Orca, St. Michael Island, Skagway, Unga, Karluk, Kechikan. During the fiscal year ending June 30, 1900, 26 sailing vessels, of 5,235 tons, and 390 steam-vessels, of 207,645 tons, were entered by the district of Alaska, of which 5 sailing vessels, of 3,037 tons, and 237 steam-vessels, of 143,082 tons, were American; during the same period 26 sailing vessels, of 3,511 tons, and 317 steam-vessels, of 151,893 tons, were cleared, of which 5 sailing vessels, of 2,012 tons, and 170 steam-vessels, of 94,388 tons, were American.

The total exports for the fiscal year ending June 30, 1900, were valued at \$566,347, and the imports at \$385,317. The exports for the nine months ending September, 1901, were valued at \$1,881,627; the imports at \$390,225. These figures are for the foreign commerce alone, and do not include the values of merchandise shipped to and from ports of the United States.

Mineral Resources.—Although coal, copper, silver, cinnabar, lead, tin, arsenic, antimony, manganese, corundum, petroleum, slate, clay, and many varieties of building stone are reported in paying quantities, gold is the only mineral that has received the serious attention of the miners. The gold is mined chiefly by placers; but several quartz-mills are building, and some in successful operation, notably the great three-hundred-stamp gold-mill, the largest in the world, at the Treadwell mines, near Juneau. The great centers of the placer gold-mining industry are the Yukon valley and Cape Nome. Some coal has been taken out at Tyonek, on Cook Inlet, for use on a small local steamer, and at the agency of the Alaska Commercial Company, and an English company is making an attempt toward the development of the surface indications of petroleum near Cape Yakutat, Cape Martin, and Kachewak Bay.

The output of precious metals from Alaska in 1899 was estimated by the Director of the Mint to be: Gold, 264,104 fine ounces, value \$5,459,500; silver, 140,100 fine ounces, value \$181,540; total value, \$5,640,640. The value of the gold output in 1900, by the same estimate, was \$8,171,000. These figures are for Alaskan territory alone, and

do not include the output of the rich Klondike mines in British Columbia. Alaska imported \$9,137,608 of this Canadian gold in the nine months ending with September, 1901, against \$13,115,389 in a similar period in 1900. The gold-dust receipts at the Seattle Assay Office for the year up to Sept. 30, 1901, from all Alaska and Klondike districts, amounted to more than \$25,000,000, and the total receipts for the three years this office has been in operation exceed \$50,000,000. The last steamers sailed from Nome on Oct. 24, 1901, bringing out more than \$1,000,000 in treasure, and the lakes and the Yukon river were expected to keep open for traffic out of the Klondike till the middle of November.

While, the mines of the Klondike have come up to the estimates made last spring of the probable output, Nome has been disappointing, although the yield is in excess of \$6,000,000. The estimates for Nome made last spring were \$10,000,000, but by reason of the late and unfavorable season, causing the ground to remain frozen until July 10, the output was cut nearly one-half. Interviews with many well-known miners who have returned to spend the winter confirm all the statements regarding the disadvantages and discouragements in nearly all the Nome districts and camps this season.

The year has been a prosperous one for Dawson, and the frontier mining-camp has rapidly blossomed into a handsome capital city, with all the modern conveniences, beautiful homes, and well-graded thoroughfares. Many men who have dug fortunes out of the earth are staying in the city and spending money in building it up. While the placers have proved rich and predictions have been made that they will hold good for ten years more with extensive hydraulic plants to operate them, additional attention has been given this season to quartz-mining, and several hundred locations have been made in the Dawson district. These properties will be prospected and developed this winter, and the winter diggings that were neglected last season will also be made to contribute to the wealth of the country this winter. The first gold stamp-mill ever built on the Yukon is under construction near Dawson, and it will operate on ore that gives gold values of \$20 a ton. There has been everything to encourage business men and miners in the Klondike region this year.

Fisheries.—Cod, halibut, and herring have long been the food of the natives, and are now being taken in paying quantities by vessels from San Francisco and Puget Sound; but while Alaska possesses what are probably the greatest cod-fishing banks in the world, estimated to be 125,000 square miles in extent, salmon canning is the only great fishing industry. The first canneries were erected in 1878, and the industry now has between \$11,000,000 and \$12,000,000 invested in buildings, machinery, tackle, boats, and steam-vessels. The total pack in 1898 was 974,601 cases, 20,518 barrels, and 4,300 half-barrels; total value, \$3,544,128. The estimated pack in 1899 was 1,000,000 cases and 15,000 barrels, and for 1900, 1,250,000 cases. Until 1899 there were no laws or rules regulating the location of these canneries or the manner in which the fish should be taken; each canning company built where it pleased, and the slaughter of fish went on without let or hindrance. On the best streams, as the Karluk, Kadiak island, many canneries have been built close together, and there is the sharpest rivalry as to which shall put up the largest pack. In consequence the rivers and inlets are being rapidly depleted, and an industry now yielding more than \$3,000,000 annually is threatened with extinction.

The pack at Karluk river in 1894 was 229,284 cases, in 1896 226,428 cases, and in 1897 154,262 cases. In 1898 the pack had dropped to 60,000 cases, and in 1899 to 40,000 cases. A hatchery has been for several years maintained by the Alaska Packers' Association, but so far there is little sign of replenishment. In speaking of the decline, Capt. Jefferson F. Moser, of the United States Fish Commission steamship Albatross, says: "The output of salmon for a single year in 1897 was about 43,000,000 cans, so one does not wonder that the streams of Alaska are becoming depleted. This depletion, already serious, is caused not by overfishing alone, but by 'barriecading,' a process instituted before the acquisition of Alaska by the United States, a means whereby the fish are actually prevented from ascending the streams to spawn and are compelled to remain practically impounded in the lower waters, awaiting the pleasure of the packers. Although this practise is punishable by a heavy fine and imprisonment, the laws are not enforced." The new code of 1899 made it necessary for the packers to erect hatcheries after Jan. 1, 1901. This was strenuously opposed by the packers and fishermen, as were the following sections, placing restraints on illegal taking of the fish:

"It is forbidden to lay any seine, gill, or other net within 100 yards of the mouth, on either side, or immediately abreast of the mouth, of any river or stream, whereby, in the setting or hauling of said seine, gill, or other net, it may drift wholly or partially across and operate to close the mouth of said river or stream."

"Traps, whether 'fixed or stationary obstructions' (built on piles or webbing) or constructed of webbing and boats and susceptible of removal from place to place, are declared to be obstructions which 'impede the ascent of salmon to their spawning grounds,' and their use is hereby forbidden."

Sealing.—Not including a few sealskins brought directly into San Francisco from the north, the total catch in the Arctic in 1901 was 24,127, most of the skins going to Victoria, the rendezvous of the sealing schooners. The Bering Sea catch was 10,314, the Copper island catch 3,838, the coast catch 8,985, and the approximate Indian catch 1,000 skins. The world's catch of fur sealskins for the year 1901 is approximately 54,000 skins.

Timber.—The whole coast of Alaska, including the islands from 54° 40' to the eastern part of Kadiak island, is covered with timber to the snow-line of the mountains. Hemlock and spruce prevail, but in places there is the yellow or Sitka cedar, and upon Prince of Wales island the red cedar attains large size. Young timber springs up very rapidly, and the great amount of rain falling upon the ground carpeted with moss that holds the water like a sponge, preserves this great timber from destruction by fire. Forests of *conifera* exist along the rivers of the interior, the Yukon, Tanana, and Koyukuk, trees on the latter stream attaining a size of two feet in diameter. The Government has not put these lands on the salable lists, and every man who builds a fire to cook a meal or builds a house to cover his head is a trespasser on this great timber reserve. The early disposal of these timber tracts is a matter of great concern to the people, for they would at once enter into the lumbering business, and in the near future could build up a very profitable trade with Japan and China. The great facilities for water transportation will make the southeastern coast very desirable for lumber shipments.

According to the report of the Governor of Alaska, there were 12 small mills operating in southeastern Alaska in 1899. These only manufactured lumber for use in the Territory. The prices charged in Sitka were: Rough lumber, \$13 a thousand; flooring and rustic, \$20 a thousand; selected boat lumber, \$25 a thousand; and clear cedar, \$50 a thousand. Most of the lumber and timbers used in the great mining enterprises and in the rapid building up of Dyea and Skagway, and in the construction of the White Pass Railway, were imported from Puget Sound. Nearly all the timber taken in southeastern Alaska has been put in the water by hand loggers, and has hardly ever been more than 300 feet from salt water.

During the year many men who went prospecting upon the Koyukuk, Tanana, and other Yukon tributaries, and who were reduced to their last dollar, found that they could maintain themselves by cutting cord-wood to supply the steamboats. They obtained \$7 and \$8 a cord, and some offered their wood at \$5 a cord on the last trips of the steamers. This they did without molestation from the Government officials except in one or two instances. The wood was cut chiefly from dead trees, and it was far better to use it on the steamboats than to let it rot on the ground.

Military, Railways, Telegraphs, etc.—Alaska was erected into a separate military department in January, 1900, and placed under the command of Col. George M. Randall, of the Eighth United States Infantry. The headquarters of the department was at St. Michael, where the military reservation embraces the territory included in a circle described by a hundred-mile radius from the flagstaff at that place as a center. Troops are also stationed at Fort Wrangel, Skagway, Prince William Sound, Cook Inlet, Cape Nome, St. Michael, Fort Gibbon, Rampart, Circle, and Fort Egbert, near Eagle City. The Department of Alaska was discontinued, Sept. 15, 1901, by an order issued July 25, and merged into the Department of Columbia, Gen. Randall, with his personal and departmental staff proceeding to Vancouver Barracks to take command of the latter department.

In Skagway, Juneau, and Douglas companies of militia have been organized, and in 1899 Mr. F. D. Kelsey, of Juneau, a member of the Alaska bar, who is experienced as an officer of the National Guard of Oregon, was appointed adjutant-general with the rank of colonel.

Major Francis Greene, of the signal corps, is in charge of the construction of the military telegraph line from Nome and St. Michael, via Eaton and Nulato, to Eagle City, in the Upper Yukon valley. At Eagle the line will connect with another to Valdez, on Prince William Sound, and with the Canadian line via Dawson to Skagway. Between Nome and St. Michael a cable has been laid and is in successful operation. The laying of the cable from Juneau to Skagway, the first link in the system that is to connect Seattle and Skagway, was completed in November, 1901.

With Col. P. H. Ray, for two years in charge of the meteorological station at Port Barrow and afterward in command of the troops on the Yukon, originated the plan for a road into central and northern Alaska by way of Valdez and Eagle City.

The progress on these important works is indicated by the following reports, the first from the annual report of Gen. A. W. Greely, chief signal officer of the United States army, issued in October, 1901, and the second from the annual report of Gen. George M. Randall, commanding the Department of Alaska:

"It is not generally understood that the Alaska telegraph systems, while placing all the Alaskan posts in connection with the commanding general of the department when completed, would not afford means of communication with any other part of the world. To increase the value of the Alaskan system, the chief signal officer of the army conferred with the authorities of the Canadian Government at Toronto with a view to the extension of the existing Canadian telegraph lines and the establishment of cooperation in telegraphic work between the Alaskan and Canadian systems.

"The Canadian Government courteously placed in conference with the chief signal officer of the army Mr. J. B. Charleson, assistant superintendent of public works in the Yukon district, who was charged with the extension of the Canadian telegraph line from Quesnelle to Atlin. The Canadian authorities had the longer line to construct, but they performed their work with such expedition that, on May 5, 1901, the telegraph line was completed between Dawson and Fort Egbert, thus bringing the upper part of American territory on the Upper Yukon in direct telegraphic communication with Skagway, whence by steamer news could reach Washington, or any other part of the world, in four days under ordinary conditions. On Sept. 24, 1901, telegraphic communication was established between Fort Egbert and the Upper Yukon region, via United States military telegraph and Canadian land lines, and messages were exchanged between the commanding officers at Fort Egbert, Skagway, and the authorities in Washington."

"The total length of telegraph-line constructed up to date aggregates about 400 miles. The work is being pushed along the Yukon river above Nulato, and by the close of navigation in September it is hoped that there will be telegraphic communication between this point (St. Michael) and Fort Gibbon, a distance by the line of 420 miles.

"The work upon the 'transalaskan military road' under Capt. W. R. Abercrombie, Second Infantry, acting engineer officer of the department, was prosecuted with energy and under trying conditions. The latest information from Capt. Abercrombie is to the effect that the crossing of the Tanana will be reached by next November."

The report of Capt. Bingham, chief quartermaster under Gen. Randall, shows an expenditure during the year for army transportation of \$185,744.74; for barracks and quarters, \$49,233.28; regular supplies, \$4,517.20. Capt. Abercrombie expended for military roads and bridges \$63,840.

The only railway in operation in the Territory is the short Yukon and White Pass Railway, opened for traffic between Skagway and Lake Bennett, over the White pass, in July, 1899. In the days of the Klondike craze in 1897 it was a difficult task and took many days to get over this pass with an animal and pack, and some men and many animals perished in the attempt. The transportation of freight cost as much as 40 cents a pound. Now the trip across is one of comfort and pleasure, and freight is carried for 3 cents a pound. The laying of this line presented many engineering difficulties, especially for the first 20 miles. The scenery is magnificent, and the trip is now added to the tourist routes. The road connects at Lake Bennett with boats for Dawson and the Yukon valley.

Several routes for an "all-American road" into the interior of Alaska have been suggested, chief of which are the Valdez-Eagle route following the line of the new military road, and a line from

Cook Inlet to the Tanana through valleys of the Sushitna and Cantwell rivers. George H. Eldridge, of the United States Geological Survey, who was in charge of a party that made a sur-

"The desirable features of such a route are: (1) That the southern terminus be on water open the year round; (2) that the country traversed yield a large amount of farm-produce for those

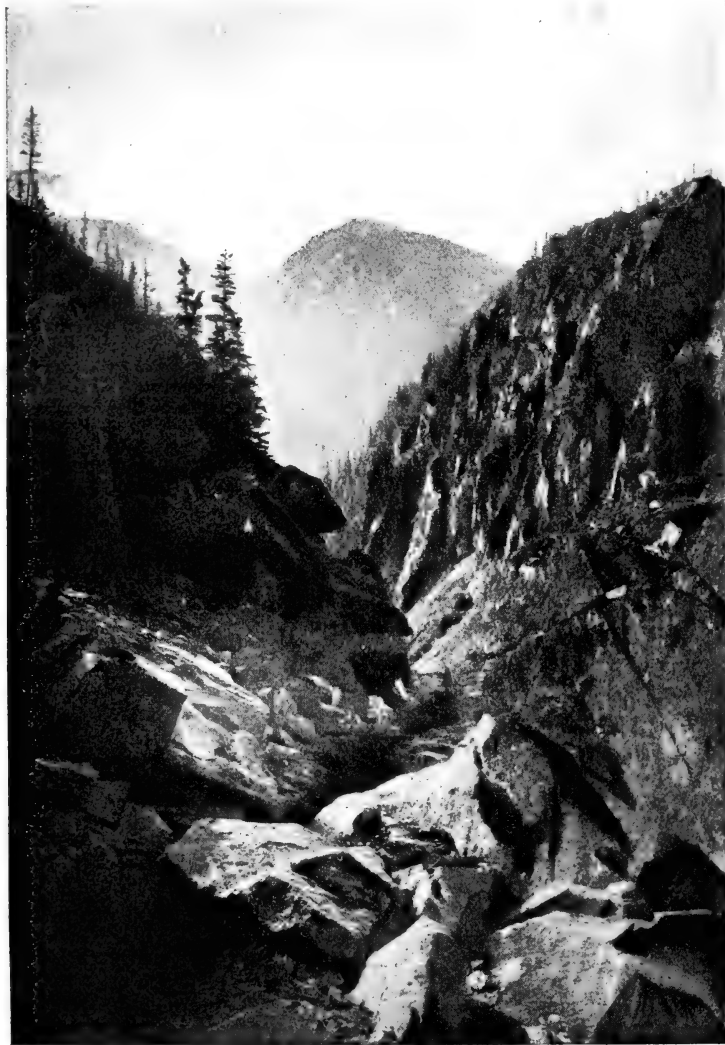
who may dwell in the interior and less agricultural portions of the Territory. The Sushitna-Cantwell route affords both these conditions, and is the only one that does. Moreover, the route is remarkably direct, both to the Birch creek and Klondike mining regions and to the confluence of the two great navigable rivers of the interior, the Yukon and the Tanana, a point that, from its position, is regarded by many as of prime importance in the future growth and development of the interior.

"Cook Inlet, in the winter season, is packed with floating ice as far south as the east and west forelands, a condition that has proved a barrier to navigation for four or five months each year. South of these points the ice is said to be less aggressive and navigation possible, though perhaps a little impeded. Off the shores of Redoubt Bay the charts indicate a depth of water of 10 fathoms, and the coast has protection from the north, as at Tyonek, where, with less water, an excellent harbor is afforded during the summer. This locality, therefore—without actual investigation—would seem to afford a suitable location for the southern terminal of a railway line to the interior.

"The second of the desirable features—that the country traversed shall afford a supply of agricultural and farm produce equal to its own de-

mands and to those of the interior—will likely be realized if settlement is attempted, for the possibilities of this region are most encouraging to the farmer seeking a new home. Moreover, so far as at present known, this is the only area of such capabilities along the entire southern coast of Alaska. In other portions the great extent of arable valley lands is wanting, or the region, where open and level, has too great an altitude for the growing of grains and vegetables. A railway in the Sushitna valley might have tributary to it many thousand farms from which to draw its traffic. Besides farm-produce there would be carried a heavy tonnage of manufactured products, including machinery. The amount of return freight would, however, be considerably smaller than that passing inward.

"A feature of the Sushitna-Cantwell route that should not be overlooked is its picturesqueness.



THE WHITE PASS BEFORE THE RAILROAD WAS BUILT.

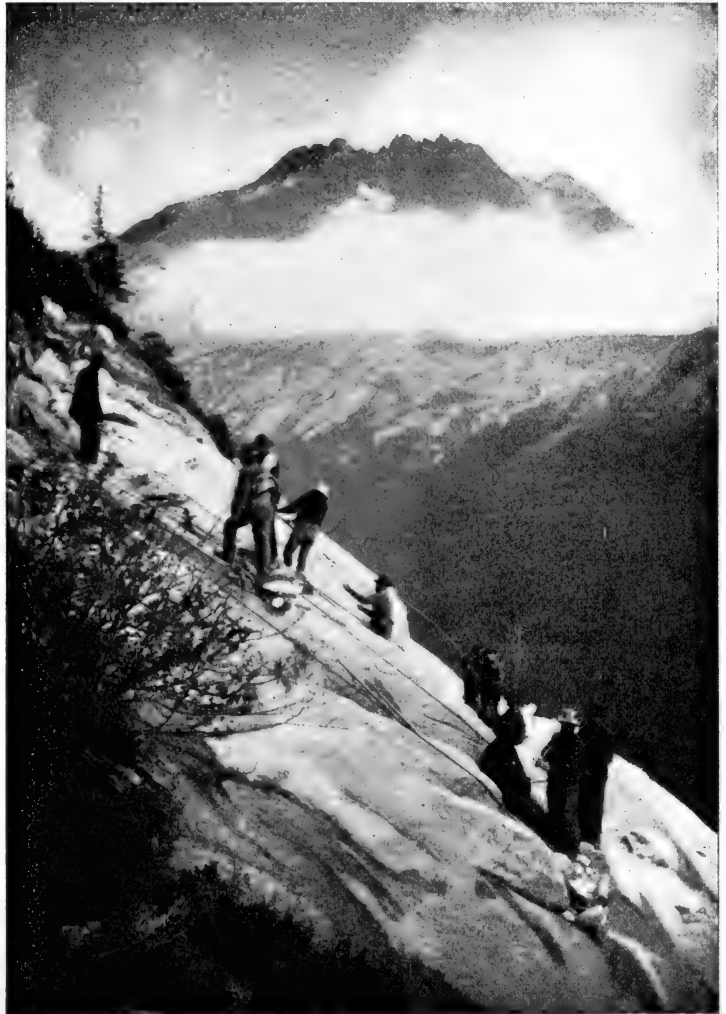
vey of the latter route in 1898, reports as follows upon its advantages for opening up railway communication with the interior: "Nowhere along the route of travel was an obstacle encountered that would prevent the construction of pack-trail, wagon road, or railway. Grades for the latter could easily be found, the streams could be bridged at slight expense, and timber abounds either along the route or in close proximity to it. That the Sushitna-Cantwell valleys afford a feasible railway route to the interior of Alaska is beyond dispute, yet in any undertaking in this direction the winter snows must not be lost sight of. They would surely entail heavy operating expenses for at least five months in the year, if, indeed, they would not altogether prevent traffic. In the Sushitna valley the average depth of snow is said to be 4 feet; in the mountains it is, of course, much greater.

The route would lie at the very foot of Mount McKinley, would pass through one of the grandest ranges on the North American continent, and in the valley on either side of the divide would afford ever-changing views, equal to those along the most attractive routes in the United States. Many routes have been found into the interior available for pack-trails or wagon roads, but for a railroad none seems to be so desirable as the Sushitna valley."

Agriculture.—With Norway, Scotland, and Ireland to prove the contrary, it often has been asserted that grain and vegetables can not be grown in Alaska. Baranof cleared 15 kitchen gardens in 1805 and ripened barley and potatoes, and common vegetables, as has been done every year since. Fine grasses spring naturally on any clearing; wild timothy and coarser grasses grow three and four feet high, and clover thrives well. Vancouver found the natives cultivating potatoes and a kind of tobacco, and each family had its plantations in sheltered nooks where they sowed their tubers like grain, and gathered them the next winter or spring. There were gardens on either side of the stockades at Sitka that provided fresh vegetables, and hothouse frames secured the Russians many delicacies. In United States days the residents have successfully raised radishes, lettuce, carrots, onions, cauliflower, cabbage, peas, turnips, beets, parsnips, and celery; and single potatoes have weighed 1 pound 5 ounces. Vegetables are raised every year at the Yukon missions and trading posts, and the city of Dawson, British Columbia, is abundantly supplied with fresh vegetables from its own gardens. Small quantities of hay have been cured in southeastern Alaska since 1805, and recent experiments have successfully demonstrated the value of the native grasses as ensilage.

It has been shown that the vegetables raised in Alaska are an important factor in maintaining the health of the mining communities. With these considerations in view the United States Department of Agriculture has established experiment stations at Sitka (headquarters) and Kenai, on Cook Inlet, and has surveyed and set apart for experimental purposes large tracts of land at Fort Yukon and Rampart in the Yukon valley. The work is carried on in the same manner as in the experiment stations in the States, where it is the usual practice to test the different varieties of plants first on small plots. The experiments so far made

have consisted largely in growing different varieties of cereals, forage plants, flax, and vegetables. Experiments in storing ensilage and in making hay from native grasses have been tried with success. Much information regarding agricultural conditions in different parts of Alaska has been obtained through circulars of inquiry and the visits of agents to the different localities. Seeds have been distributed, and in many instances reports have been received upon the results obtained from them; and the correction of the acidity of new land with lime has been successfully accomplished. Sufficient evidence has been obtained to show definitely that a considerable variety of vegetables can be successfully grown in different parts of Alaska. It has also been shown that in southeastern Alaska and in Cook Inlet oats, barley, buckwheat, and spring wheat will mature with careful culture; and that



CUTTING GRADE FOR RAILROAD IN THE WHITE PASS.

the failure of former attempts to grow crops has been due to the natural acidity of the soil and improper drainage. When these difficulties have been removed by proper treatment the land is fertile and productive. Of the practical conclusions

from these results, the Secretary of Agriculture writes, supplementing the fourth annual report (1900) of the work in the Territory: "If our investigations should do nothing more than establish on a sound basis the growing of vegetables in little gardens about the cottages of miners and fishermen in Alaska they will make an adequate return for the funds expended on them. But there is a fair prospect that they will do much more than this. There are large areas on the western peninsula, in Cook Inlet, and on the islands which are naturally adapted to the growing of live stock. The fact that a considerable number of domestic animals have already been maintained in this region would seem to show that an animal industry might be developed there. The department will attempt to find out under what conditions this can best be done.

"The growing of grain and other forage crops on a large scale in this region and in the interior is still problematical. The experiments which the department has thus far conducted have been very largely made with reference to the determination of general agricultural possibilities of the Territory. The growing to maturity of such plants as wheat and oats in any region, even in small quantities, furnishes an excellent indication of the climatic and soil conditions of that region with reference to its agricultural possibilities, for we know quite definitely what is required for the maturing of such plants.

- "In southern Alaska, which is the only part of Alaska seen by most tourists, the forests cover most of the land. The natural meadows, which occur in considerable numbers, are usually of quite limited extent, and for the most part escape the notice of visitors pursuing the ordinary lines of travel. The clearing of land for agricultural purposes in this region will necessarily be expensive, and will only be done as lumbering takes away the trees and increase of population makes a demand for agricultural products. In most respects this region does not differ materially from that of Puget Sound. It is probable that ultimately it will become the home of a considerable population, part of whom will engage in agriculture; the growing of such crops as oats, barley, potatoes, buckwheat, turnips, and other vegetables, together with dairying, will become important industries, and it is probable that flax will be largely grown for its fiber here, as it will be in western Washington and Oregon.

"For a considerable period our operations will largely partake of the nature of an agricultural survey, to determine where agricultural operations may best be carried on by incoming settlers. By active work along the lines already marked out, it is believed that the experiment station in Alaska will prove an efficient aid in the development of the Territory, and will thus justify the expenditures for their maintenance.

"That Alaska will ultimately have a considerable permanent population there can be but little doubt. As we have shown in previous reports, Finland is the country which, on the whole, furnishes the best basis of comparison with Alaska as regards natural conditions. Finland supports a population of 2,500,000, and its agriculture has reached a high state of development. In 1895 Finland produced 38,174,083 bushels of barley, oats, and rye, of which 1,396,200 bushels of oats were exported. At the same time there were 300,650 horses, 2,398,183 cattle, 1,067,384 sheep, and 197,356 hogs. During the period from 1891 to 1895 there were annual exportations of about 22,750,000 pounds of butter, 400,000 pounds of cheese, and 400,000 gallons of milk, or a value of \$6,750,-

000 from dairy products alone. Very conservative estimates of the agricultural possibilities of Alaska indicate that agriculture may be regularly and successfully carried on over an area as large as that of Finland."

Statistics of an industry so largely in its infancy are of necessity very meager. The bulletin of the Census Department, prepared from statistics collected by special agents, published in connection with the census of 1900, reports 12 farms in the Territory. The total acreage was 159 acres, of which 104 acres were devoted to the cultivation of vegetables and hay, and the remainder used for pasturage. Of these farms 5 were under 3 acres (4 market-gardens and 1 raising poultry as well as vegetables); 3 had more than 3 and less than 10 acres; and 4 had more than 20 and less than 50 acres. The total value of the products of the farms of the first class was \$627 in 1899; of the second class, \$3,010; and of the third class, \$4,409. The total farm wealth of the Territory on June 1, 1900, was \$15,686, of which \$2,196 are invested in live stock, \$690 in implements and machinery, and \$12,800 represent the value of buildings and improvements (on 9 of the 12 farms). No land values are given, as no titles have been secured by the farmers, owing to the fact that no official survey has been made. These farms were all south of Kuskokwim river, in southeastern Alaska, and along the southern coast, including the Aleutian Islands. In this section there are two centers of agricultural activity, one on the southeastern coast in the vicinity of Juneau and Sitka, and the other in the southwest in the region about Cook Inlet and Kodiak island. The main expense incurred by the settlers in opening farms has been in the preparation of the soil for cultivation. This has been in some instances \$120 per acre. The least for which labor can be hired in the interior is \$5 a day, and the average will reach \$7.50 a day and board. At Sitka and Kenai the least that white labor can be hired for is \$2 a day. At the mines labor is paid from \$2 to \$2.50 a day and board.

The farm animals and poultry comprised 13 milch cows, value \$810; 5 oxen and other cattle, value \$505; 5 horses, value \$465; 10 swine, value \$100; 3 Eskimo dogs, value, \$150; and 176 chickens, value \$166. The relatively higher valuation of oxen than horses is explained by the statement that they are better adapted to farm work in Alaska, as they can be kept at less expense and are less susceptible to cold. The native grasses furnish abundant pasturage in the summer, and roots and ensilage take the place of natural forage in winter. This enumeration includes only the animals on farms, no enumeration having been made of cows, reindeer, pack dogs, and other live stock owned by the Indians or kept in towns and villages. On many of the small islands along the coast of the Alaskan peninsula, and notably on Sanak and Shumagen islands, cattle are very successfully raised. No detailed report was obtained of the number of cattle kept on these islands nor of those on Douglas island, near Juneau, where a number of cows are kept for dairy purposes. The unenumerated stock far exceeds in number and value that reported.

Of the total value of products—\$8,046—\$5,565 was from the sales of vegetables; \$1,340, hay and ensilage; \$179, chickens; \$360, eggs; \$310, calves; \$274, milk; and \$18, butter. The long periods of daylight, the comparatively high temperature, and the abundant rainfall, which mark the brief growing season, are highly favorable to the rapid growth and early maturity of nearly all kinds of

vegetables, for which there is an active demand and ready market in the large towns and mining-camps. The chief product in point of value was turnips, returning \$1,399; then followed potatoes, \$1,371; lettuce, \$790; carrots, \$850; radishes, \$708; beets, \$205; cabbage, \$141; celery, \$80; onions, \$10; peas, \$8; and rhubarb, \$3. There was very little of what could properly be called hay. Very little tame grass was grown; and the 4 silos, with a capacity of 130 tons, were chiefly filled with beach and other native grasses, which grow in great abundance. From the 13 cows reported, \$292 were realized from dairy products and \$310 from the sales of veal calves.

From the standpoint of income upon capital invested, poultry-raising in 1899 was relatively the most profitable branch of Alaskan agriculture. The stock on hand, June 1, 1900, consists of 176 fowls, valued at \$166. The total income was \$539 in 1899. Of this sum, \$330 were derived from eggs and \$179 from the sale of chickens. Eggs found a ready market at an average price of 43 cents per dozen, while the average amount received for fowls was \$1.01 each.

It is to be regretted that the special agents failed to secure reports concerning the farming operations of the Indians. The Thlingits, inhabiting the southern coast, and the Aleuts, on the Alaskan peninsula and neighboring islands, have made substantial beginnings in agriculture. Nearly every village of the natives on the southern coast has its community garden, and several individual gardens are found. Potatoes, cabbage, turnips, carrots, lettuce, radishes, and other vegetables of the hardier varieties are cultivated, potatoes being the principal crop. At Tyonek, in a recent favorable year, over 300 bushels of potatoes were raised. Some barley was grown on Kadiak island from seed furnished by the agricultural experiment stations. With that exception, no cereals have been successfully grown. Enough hay is usually gathered to feed the domestic animals through the winter. The wild grass is cut with sickles and hung on trees or poles to cure. The Indians understand the importance of fertilizing, and gather large quantities of kelp and seaweed for the purpose. Stock-raising is a very limited industry, although the number of domestic animals owned by the natives is greater than that reported for the farms. At Nenilchik they own over 30 head of neat cattle, each family having at least one cow. The cows are of hardy Russian stock, are small, and give but little milk. Near some villages contact with white men has taught the natives the use of improved farm utensils, but in other localities they till the land with staves and other crude implements. The missionaries are introducing modern tools among the Indians, and are instructing them in improved methods of agriculture. The establishment of agricultural experiment stations has been very beneficial, and gives promise of accomplishing still greater results.

Education.—The educational work of Alaska is under the direct supervision of the Rev. Sheldon Jackson, D. D., the United States general agent of education for Alaska. He is assisted by William Hamilton, the assistant agent of education for Alaska, and William A. Kelly, superintendent of schools for the southeastern district of Alaska. According to Dr. Jackson's report for the fiscal year ending June 30, 1900, 25 public schools were maintained, with 27 teachers and an enrolment of 1,753 pupils. In addition the department continued to pay the salaries of 5 teachers in the Sitka Industrial School, giving instruction in the branches of carpentering, domestic science, paint-

ing, tinsmithing, net-making, boat-building, and in the common English branches, the total number of pupils under instruction being 151. The following table shows the location of the public schools, the race under instruction, and the total enrolment and average monthly attendance for the school year extending from September, 1899, to May, 1900:

SCHOOLS.	1899-1900.	
	Average monthly attendance	Total enrolment.
Sitka :		
No. 1 (whites).....	30	47
No. 2 (natives).....	21	184
Juneau :		
No. 1 (whites).....	49	96
No. 2 (natives).....	12	70
Douglas :		
No. 1 (whites).....	56	100
No. 2 (whites).....	19	37
Skagway (whites), 4 schools.....	128	214
Wrangell (whites and natives), 2 schools.....	53	114
Jackson (natives).....	20	51
Hoonah (natives).....	16	125
Saxman (natives).....	19	76
Haines (natives).....	11	64
Gravina (natives).....	15	61
Dyea (whites).....	17	23
Kake (natives).....	29	87
Kadiak (whites and natives).....	38	66
Unga (whites and natives).....	33	47
Unalaska (whites and natives).....	53	76
Wood island (natives).....	34	61
St. Lawrence island (natives).....	23	72
Point Barrow (natives).....	.....	82
Total enrolment during session, 1899-1900.....	.....	1,753

The congressional appropriations for education in Alaska have been as follow: First grant to establish schools, 1884, \$25,000; in 1886-'87, \$15,000; in 1887-'88, \$25,000; in 1888-'89, \$40,000; in 1889-'90, \$50,000; in 1890-'91, \$50,000; in 1891-'92, \$50,000; in 1892-'93, \$40,000; in 1893-'94, \$30,000; in 1894-'95, \$30,000; in 1895-'96, \$30,000; in 1896-'97, \$30,000; in 1897-'98, \$30,000; in 1898-'99, \$30,000; in 1899-1900, \$30,000. The appropriation for 1899-1900 was disbursed as follows: Salaries, \$22,921.13; supplies, \$3,203.76; fuel and lighting, \$1,246.96; repairs, \$816.42; rent, \$413.40; traveling expenses, \$372.50; freight, \$299.91; balance, \$725.92. The expense per capita of enrolment was \$17.45. The nature of the teaching in the native schools, aside from the industrial branches, upon which great stress is laid, and the ability and progress of the pupils, are perhaps best illustrated by notes from the field. S. R. Spriggs, the teacher at Port Barrow, says:

"The pupils could best be managed when grouped in three divisions, viz., primary, intermediate, and advanced. The primary department enrolled 27 males, 17 females; total, 44; the intermediate enrolled 13 males, 9 females; total, 22; while the advanced class enrolled 12 males, 4 females, 2 of the 12 males being adults.

"English was the fundamental course throughout the year, more time being given to it than to the other studies because, being the basis of teaching in all the other subjects, its importance was continually seen and felt. The advanced section used readers. The intermediate was drilled in words, sentences, also in spelling and reading, and the primary section was inducted in part into the alphabet and names of familiar objects, this to be used as a basis of future work in the teaching of English. Writing (copy-books) was enjoyed by nearly all the members of the two upper departments.

"Next in importance to English comes arith-

metic. For the advanced section this has meant the gaining of an insight as to what numbers really mean, facility in counting, translating their numerals into our simpler and elastic ones, addition, subtraction, a partial mastery of the multiplication tables and practise in their operation, both by multiplication and division. To this were added examples, practical and useful, to illustrate the usefulness of what had been acquired.

"The advanced section was also given lessons on the outlines of American history and also in drawing simple straight-line delineations. One or two lessons were given each week in physiology and hygiene to the three sections.

"One element omitted in the report is, that of ages. These it is impossible to obtain, the Eskimos having kept no record of years in the past; but on the average the primary class includes all those from about nine years down, the intermediate between nine and twelve, and the advanced from twelve to sixteen. The two adults reported were about twenty to twenty-two years of age."

P. H. D. Lerrigo, M. D., teacher at St. Lawrence island, writes:

"In mental ability the native children seem to compare favorably with those of more civilized countries. Some few are hopelessly dull, but the majority are capable of comprehending and retaining the subjects which engage the attention of white children of similar age. A few are remarkably bright and exhibit capability for mental

continued. The discipline was upon the whole well maintained and punishment not frequently necessary. Upon a few occasions dismissing the culprit from the schoolroom seemed to produce a sufficient moral effect. In June, after the school was closed for the year, during my absence from the village, some of the boys broke into the house and committed trifling pilfering, but took nothing of any great value. Upon this occasion I considered it necessary to take a little more vigorous action, and administered corporal punishment to the two leaders, after giving them a moral lecture upon the enormity of their misdeed. The parents came to me almost unanimously, apologizing for their children, some of them returning the stolen articles, some bringing payment for the things eaten, while others relieved me of the necessity of further action by thrashing their boys themselves."

In these schools the natives are Eskimos; but in those attended by the Indians the attendance is as regular, and the pupils seemingly as desirous of instruction and advancement. "The native children, if sent to school regularly, learn slowly but surely," in the words of another teacher. "Their faith in the white man is great, and for that reason it is easy to work among them. Irregular attendance and tardiness are due to home surroundings. The parents are often indifferent as to whether the children attend or not." The homes are without system, and the children are often tardy or must stay at home because some article of clothing is lost.

The bureau reports the appointment of a citizen of Nome as superintendent of schools for the Cape Nome district, with duties similar to those of the superintendent of schools in the Sitka district—namely, to visit the schools that from time to time may be established within his district, report on their condition, examine candidates for the position of teacher, and aid this bureau with suggestions and advice regarding the educational affairs of northwestern Alaska. This was made necessary by the great increase in population in the Cape Nome region through the immigration of miners with their families.

Owing to the friendly cooperation of the priests of the Russo-Greek churches throughout southwestern Alaska in urging the children of their parishioners to attend the public schools, the seating capacity of the school-buildings in that region was severely taxed. It was necessary to enlarge the school-building at Kadiak and to send additional teachers to that place and to Unalaska.

In several sections of Alaska the influx of white men has resulted in an increased interest in schools on the part of the adult native Alaskans. Realizing the advantages to be obtained by such a knowledge of the English language as will enable them to trade intelligently with the white men, they have made requests for night-schools. At Wood island it was possible to comply with such a request, and the result has been very satisfactory. At Gravina, Saxman, and Wrangell native Alaskans are efficient members of the local school committees.

In addition to the schools established by the



RESIDENCE OF REV. W. T. LOPP, CONGREGATIONAL MISSIONARY,
AT CAPE PRINCE OF WALES.

training to a very considerable extent. The great obstacles in their progress are irregularity in attendance and the lack of the gift of continuity. Their life involves nothing which is calculated to train them for continued mental application. Their work is such as requires physical strength and native acuteness for a little time, after which the strain is relaxed and they lapse into a condition of utter idleness until again required to put forth effort. Consequently their faculties for long-continued mental effort are undeveloped and the children are unable to follow an extended course of work with the facility of those who have come of more civilized stock. Limited by these drawbacks, however, they have during the past year made an appreciable advance in the use of English, in arithmetic, in geography, and in general knowledge.

"Precedent had accustomed the children to moderate talking during school hours, and as it did not interfere with the work, the custom was

United States Bureau, most of the missions to Alaska maintain schools teaching general and industrial branches. The Presbyterian Church supports 14 missions, the Sitka Hospital, and the Sitka Training-School; the Protestant Episcopal Church, 10 missions; the Moravians, 3; the Friends, 4; the Baptist Church, 1; the Methodist Episcopal Church, 1; the Congregational Church, 2; the Swedish Evangelical Mission Covenant, 3; the Roman Catholic Church, 5 and the Dawson Hospital; and the Orthodox Russo-Greek Church, 14.

The Sitka Training-School reports as follows: "Teachers, 9 (2 of whom are natives); pupils, boarding, 147; day, 4; total, 151. Salaries, \$6,818.73; current expenses, \$8,874.59; total, \$15,693.32. Received from tuition, \$297.10. During the year the Sitka Training-School for native boys and girls has been successfully conducted. The teachers are well qualified for the positions they occupy, and both in the class room and in the industrial departments the work is conscientiously and well done. The carpenter shop and boat-building shop are under the management of two competent mechanics who thoroughly understand their business. In these the young men are taught trades which will enable them to make for themselves an honest support in the future. The shoe shop, in which is manufactured every pair of shoes worn by the entire school, is under the direction of a native Alaskan, who learned his trade in this school. This shop brings in considerable income from work done for outside parties. The sewing classes, cooking classes, and science kitchen are all under the direction of trained instructors, who are preparing the girls to become good housewives. As a result, Sitka is turning out numbers of young men and young women who are not only well trained in the industrial arts, but are grounded in Christian principles."

The Sitka Hospital reports as follows: "Physician in charge and 2 nurses; in-patients, 179; out-patients, 1,751; total, 1,960. Salaries, \$1,830.34; current expenses, \$744; total, \$2,574.34. Receipts, \$191.90. Many operations have been performed, all of which have been successful. The Sitka Hospital is widely known, and many natives come from long distances to receive treatment therein. Much good is accomplished by the religious instruction which is imparted along with the help given to the body." These two institutions—the training-school and the hospital—are doing much toward the regeneration, education, and elevation of the native Alaskans."

Introduction of Domestic Reindeer.—To Dr. Sheldon Jackson and Captain M. A. Healy, of the U. S. revenue cutter Bear, is due the suggestion and development of the interesting and successful experiment of introducing reindeer into central and arctic Alaska, and the training of the natives into herdsmen by the instruction of skilled deer-men brought from Lapland for the purpose. When Dr. Jackson visited arctic Alaska in 1890 for the purpose of establishing schools he found the Eskimo population slowly dying off from starvation. For ages they and their fathers had secured a comfortable living from the products of the sea, principally the whale, the walrus, and the seal. These supplies had been supplemented by the fish and aquatic birds of their rivers, and the caribou that roamed in large herds over the inland tundra. But the whalers, entering the Arctic Ocean fifty years ago, have kept up a ceaseless warfare, killing hundreds and thousands annually and driving the remnant farther and farther north into the Arctic Ocean, where they are no longer in reach of the natives. The walrus,

a few years ago so numerous that their bellows were heard above the roar of the waves and the grinding and crashing of the ice-fields, have been so far exterminated for the sake of their ivory that the natives with difficulty procure a sufficient number of skins to cover their boats, and the flesh, on account of its rarity, has become a luxury. The canneries are on their streams, carrying the food out of the country, and by their wasteful methods destroying the future supply. And the hunter and the miner, with their breech-loading firearms, have killed off the caribou or have frightened them away to the remote and more inaccessible regions of the interior.

To have established schools among this starving people would have been of little service, and to feed them at the expense of the Government would pauperize and in the end as certainly destroy them. Some other method had to be devised, and this was suggested by the wild nomad tribes on the other side of Bering Straits, who had an un failing food supply in their large herds of domestic reindeer. To introduce the reindeer into America would afford the Eskimo as permanent a food supply as the cattle of the Western plains and the sheep of New Mexico and Arizona do the inhabitants of those sections. The vast territory of central and arctic Alaska is abundantly supplied with the long, fibrous white moss, which is the natural food of the reindeer. Taking the statistics of Norway and Sweden as a guide, arctic and subarctic Alaska, by a conservative estimate, can support 9,000,000 head of reindeer, furnishing a supply of food and clothing, and a means of transportation, to a population of 250,000. The reindeer is to the Eskimo what the bamboo is to the Chinaman: food, clothing, shelter, utensils, and transportation. Dr. Jackson's plan was to introduce the deer as a part of the system of industrial education; to establish industrial schools where the chief instruction should be the management and propagation of reindeer; to loan these in herds of 100 or less to the various missionary stations as industrial apparatus to be used in training the teachable and capable youth as herdsmen and teamsters, on condition that after three years the Government may take from the herd a number of deer in good condition equal to the original number furnished, the stations keeping the increase. This plan has since been extended to apply to capable native apprentices with satisfactory results, and at the stations as a reward for intelligent and persevering industry two deer are given at the end of the first year's apprenticeship, and five more at the end of the second year's, to develop gradually the sense of individual ownership of property—a sense which has never been developed in the tribal relation.

Dr. Jackson returned to Washington in November, 1890, and in his report to the Commissioner of Education emphasized the destitute condition of the Alaskan Eskimo and recommended the introduction of the domestic reindeer of Siberia. When the Fifty-first Congress failed to take action upon the bills brought before it in regard to the matter, Dr. Jackson, with the approval of the Commissioner of Education, issued an appeal to the friends of missionary education for a preliminary sum to begin the experiment at once, and \$2,146 were subscribed. Dr. Jackson thus tells the story of the work of the first years in his report for 1895:

"As the season had arrived for the usual visit of inspection and supervision of the schools in Alaska, in addition to my regular work for the schools I was authorized to commence the work of introducing domestic reindeer into Alaska. The

natives of Siberia who own the reindeer, knowing nothing of the use of money, an assortment of goods for the purpose of barter for the reindeer was procured from the funds so generously contributed by benevolent people.

"The Honorable Secretary of the Treasury issued instructions to Capt. Healy to furnish me every possible facility for the purchase and transportation of reindeer from Siberia to Alaska. The Honorable Secretary of State secured from the Russian Government instructions to their officers on the Siberian coast also to render what assistance they could, and on May 25, 1891, I again took passage on the revenue cutter Bear, Capt. Healy in command, for the coast of Siberia.

"The proposition to introduce domestic reindeer into Alaska had excited wide-spread and general interest. In the public discussions which arose with regard to the scheme, a sentiment was found in some circles that it was impracticable; that on account of the superstitions of the natives they would be unwilling to sell their stock alive; further, that the nature of the reindeer was such that he would not bear ship transportation, and also that, even if they could be purchased and safely transported, the native dogs on the Alaskan coast would destroy or the natives kill them for food. This feeling, which was held by many intelligent men, was asserted so strongly and positively that it was thought best the first season to make haste slowly, and instead of purchasing a large number of reindeer, to possibly die on shipboard or perhaps to be destroyed by the Alaskan dogs (thus at the very outset prejudicing the scheme), it was deemed wiser and safer to buy only a few. Therefore, in the time available from other educational duties during the season of 1891, I again carefully reviewed the ground and secured all possible additional information with regard to the reindeer, and, while delaying the actual establishment of a herd until another season, refuted the correctness of the objections that the natives will not sell and the deer will not bear transportation by actually buying and transporting them.

"The work was so new and untried that many things could only be found out by actual experience. The wild deer-men of Siberia are a very superstitious people, and need to be approached with great wisdom and tact. If a man should sell us deer and the following winter an epidemic break out in his herd, or some calamity befall his family, the shamans would make him believe that his misfortune was all due to the sale of the deer. The Siberian deer-men are a non-progressive people. They have lived for ages outside of the activities and progress of the world. As the fathers did, so continue to do their children. Now, they have never before been asked to sell their deer; it is a new thing to them, and they do not know what to make of it. They were suspicious of our designs. Another difficulty arises from the fact that they can not understand what we want with the reindeer. They have no knowledge of such a motive as doing good to others without pay. As a rule, the men with the largest herds, who can best afford to sell, are inland and difficult to reach. Then business selfishness comes in. The introduction of the reindeer on the American side may to some extent injuriously affect their trade in deerskins. From time immemorial they have been accustomed to take their skins to Alaska and exchange them for oil. To establish herds in Alaska will, they fear, ruin this business. Another difficulty experienced was the impossibility of securing a competent interpreter. A few of the natives of the Siberian coast have spent one or

more seasons on a whaler, and thus picked up a very little English. And upon this class we have been dependent in the past.

"However, notwithstanding all these difficulties and delays, Capt. Healy, with the Bear, coasted from 1,200 to 1,500 miles, calling at the various villages and holding conferences with the leading reindeer owners on the Siberian coast. Arrangements were made for the purchase of animals the following season. Then, to answer the question whether reindeer could be purchased and transported alive, I bought 16 head, kept them on shipboard for some three weeks, passing through a gale so severe that the ship had to 'lie to,' and finally landed them in good condition at Amaknak island, in the harbor of Unalaska.

"Upon my return to Washington city in the fall of 1891 the question was again urged upon the attention of Congress, and on the 17th of December, 1891, Hon. H. M. Teller introduced a bill (S. 1109) appropriating \$15,000, to be expended under the direction of the Secretary of the Interior, for the purpose of introducing and maintaining in the Territory of Alaska reindeer for domestic purposes. This bill was referred to the Committee on Agriculture and Forestry, Hon. Algernon S. Paddock, chairman. The committee took favorable action, and the bill was passed by the Senate on May 23, 1892. On the following day it was reported to the House of Representatives and referred to the Committee on Appropriations. A similar bill (H. R. 7764) was introduced into the House of Representatives by Hon. A. C. Durborow and referred to the Committee on Agriculture. On April 15 Hon. S. B. Alexander, of North Carolina, reported the bill to the House of Representatives with the approval of the Committee on Agriculture. The bill was placed on the calendar, but failed to pass the House.

"On the 2d of May, 1892, I started for my third summer's work on the coast of Siberia and arctic Alaska in the United States revenue cutter Bear, Capt. M. A. Healy commanding, and, upon the 29th of June following, selected in the northeast corner of Port Clarence (the nearest good harbor to Bering Straits on the American side) a suitable location for the establishment of an industrial school, the principal industry of which is the management and propagation of domestic reindeer. The institution is named the Teller Reindeer station. During the summer of 1892 I made five visits to Siberia, purchasing and transporting to Port Clarence 171 head of reindeer. I also superintended the erection of a large building for the offices and residence of the superintendent of the station, Mr. Miner W. Bruce, of Nebraska.

"Returning to Washington in the early winter, agitation was at once commenced before Congress, resulting in an appropriation by the Fifty-second Congress, second session (March 3, 1893), of \$6,000, to be expended under the direction of the Secretary of the Interior, for the purpose of introducing and maintaining in the Territory of Alaska reindeer for domestic purposes. The management of this fund was wisely laid upon the Commissioner of Education and was made a part of the school system of Alaska.

"At the expiration of his year's service Mr. Bruce resigned, and Mr. W. T. Lopp, of Indiana, was appointed superintendent.

"Siberian herders were employed at the beginning of the enterprise, not because they were considered the best, but because they were near by and were the only ones that could be had at the time. It was realized from the first that if the Alaskan Eskimo were to be taught the breeding and care of the reindeer, it was important that

they should have the benefit of the most intelligent instructors and of the best methods that were in use. By universal consent it is admitted that the Lapps of northern Europe, because of their superior intelligence (nearly all of them being able to read and write and some of them being acquainted with several languages), are much superior to the Samoyedes deer-men of northern Europe and Asia and the barbarous deer-men of northeastern Siberia. Intelligence applied to the raising of reindeer, just as to any other industry, produces the best results.

"Therefore, when in 1893 it was ascertained that the herd at Port Clarence had safely passed its first winter (thus assuring its permanence), I at once set about securing herders from Lapland. There being no public funds available to meet the expense of sending an agent to Norway in order to secure skilled Lapp herders, I had recourse again to the private benefactions of friends of the enterprise, and \$1,000 was contributed.

"Mr. William A. Kjellmann, of Madison, Wis., was selected as superintendent of the Teller Reindeer Station and sent to Lapland for herders. He sailed from New York city Feb. 21, and landed upon his return May 12, 1894, having with him 7 men, their wives and children, making 16 souls in all. This was the first colony of Lapps ever brought to the United States. They reached the Teller Reindeer Station safely on July 29, having traveled over 12,500 miles. Upon reaching the station Mr. Kjellmann took charge, relieving Mr. W. T. Lopp, who desired to return to the mission work at Cape Prince of Wales."

From these small and careful beginnings is growing up what promises to be one of the great industries of this great and resourceful district. The original purpose in 1890, to provide a new and more permanent food supply for the half-famishing Eskimo, has not been lost sight of. The Eskimos are a hardy and a docile race, their children learn readily in the schools, and they are to be a great factor in the development of the land. In the meantime, "the discovery of large and valuable gold deposits upon the streams of arctic and subarctic Alaska has made the introduction of reindeer a necessity for the white man as well as the Eskimo. Previous to the discovery of gold there was nothing to attract the white settler to that desolate region, but with the knowledge of valuable gold deposits thousands will there make their homes, and towns and villages are already springing into existence. But that vast region, with its perpetual frozen subsoil, is without agricultural resources. Groceries, breadstuffs, etc., must be procured from the outside. Steamers upon the Yukon can bring food to the mouths of the gold-bearing streams, but the mines are often many miles up these unnavigable streams. Already great difficulty is experienced in securing sufficient food by dog-train transportation and the packing of the natives. The miners need reindeer transportation.

"Again, the development of the mines and the growth of settlements upon streams hundreds of miles apart necessitates some method of speedy travel. A dog team on a long journey will make on an average from 15 to 25 miles a day, and in some sections can not make the trip at all, because they can not carry with them a sufficient supply of food for the dogs, and can procure none in the country through which they travel. To facilitate and render possible frequent and speedy communication between these isolated settlements and growing centers of American civilization, where the ordinary roads of the States have no existence and can not be maintained except at an

enormous expense, reindeer teams that require no beaten roads, and that at the close of a day's work can be turned loose to forage for themselves, are essential. The introduction of reindeer into Alaska makes possible the development of the mines and the support of a million miners.



EATON REINDEER STATION.

"The introduction of reindeer is opening up a vast commercial industry. Lapland, with 400,000 reindeer, supplies the grocery stores of northern Europe with smoked reindeer hams, 10 cents per pound; smoked tongues, at 10 cents each; dried hides, at \$1.25 to \$1.75 each; tanned hides, \$2 to \$3 each, and 23,000 carcasses to the butcher shops, in addition to what is consumed by the Lapps themselves. Fresh reindeer meat is considered a great delicacy. Russia exports it frozen, in carloads, to Germany. The Norwegian Preserving Company use large quantities of it for canning. The tanned skins (soft and with a beautiful yellow color) have a ready sale for military pantaloons, gloves, bookbinding, covering of chairs and sofas, bed pillows, etc. The hair is in great demand for the filling of life-saving apparatus (buoys, etc.), as it possesses a wonderful degree of buoyancy. The best existing glue is made of reindeer horns. On the same basis Alaska, with its capacity for 9,200,000 head of reindeer, can supply the markets of America with 500,000 carcasses of venison annually, together with tons of delicious hams and tongues, and the finest of leather."

There has been some opposition to the experiment, brought about in part by the failure to carry supplies to the Klondike in the winter of 1897-'98. The purchase of several hundred deer in Lapland and their shipment across the Atlantic and the continent, and by steamship again from Seattle to Haines mission, and the dying of a large percentage of them at that point before and after their transfer from the War Department to the Department of the Interior, has very little bearing upon the work as it is being carried out in northern and western Alaska.

At the very time that the cry of starvation was raised in the newspapers concerning the miners on the Klondike, another cry went up that a large number of whalers at Point Barrow were caught in the ice, and unless they got relief, many would starve to death before spring. Accordingly, the revenue cutter Bear was outfitted and sent off to give relief. She landed a party of three officers—Lieuts. Jarvis and Berthoff and Dr. Call. Un-

der conditions that try men's souls, they made their way from the spot where they were landed at Cape Vancouver, a long distance south of the Yukon river, around the margin of the coast, till they came to the missionary reindeer station at Port Clarence. Here Mr. W. T. Lopp and the native Eskimo Antisarlook, at the earnest entreaty of Lieut. Jarvis, turned over their herds of reindeer to him, amounting in all to 437 animals; and the natives not only parted with their animals, but volunteered to go with Lieut. Jarvis to drive them to Point Barrow. After several fearful weeks they reached that station and gave immediate relief to those hungry men and kept them alive until the ice-pack broke up. About 100 of these animals had to be slaughtered. The food that they afforded kept 200 men alive.

The annual appropriations for the work have been as follows: 1894, \$6,000; 1895, \$7,500; 1896, \$7,500; 1897, \$12,000; 1898, \$12,500; 1899, \$12,500; 1900, \$25,000; 1901, \$25,000.

The following table shows the annual increase, together with the number of deer imported since 1892:

ANIMALS.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Total from previous year.....	...	143	323	492	743	1,000	1,132	1,877	2,538
Fawns surviving.....	...	79	145	276	357	466	625	638	756
Purchased during summer.....	171	124	130	123	...	...	161	322	29
Imported from Lapland.....	...	...	...	...	...	...	144	...	...
Total Oct. 1.....	171	346	588	891	1,100	1,466	2,062	2,837	3,323
Loss.....	28	23	96	148	100	334 *	185	299	...
Carried forward.....	143	323	492	743	1,000	1,132	1,877	2,538	...

* One hundred and eighty deer killed at Point Barrow for food, 66 lost or killed *en route*.

Of the 3,323 deer in Alaska in 1900, 644 were still in the possession of the Government, 1,184 belonged to the 6 mission stations, and 1,495 to 20 Eskimo apprentices. From 1892 to 1900, 997 reindeer were purchased in Siberia, and from these 3,342 fawns have been born in Alaska. In addition to the annual increase in numbers, Dr. Jackson emphatically states in his report that the fawns born in Alaska greatly excel in quality those born either in Lapland or Siberia. The reindeer are developing into larger and stronger animals than the Siberian deer, from which they came. The following shows the number, distribution, and ownership of the various herds in 1900: Point Barrow: Presbyterian Mission, 100; Ojello (Eskimo), 37; total, 137. Point Hope: Electoon (Eskimo), 50; Ahlook, 50; total, 100. Cape Prince of Wales: American Missionary Association, 526; Eskimos, 460; total, 986. Teller Reindeer Station: Government, 221; Norwegian Evangelical Lutheran Mission, 100; Tautook, 75; Sekeoglook, 75; Tatpan, 64; Dunnak, 50; estate of Wocksock, 75; total, 660. Cape Douglas: Mary Antisarlook, 400. Gambell, St. Lawrence island: Presbyterian Mission, 70. Golofnin Bay: Swedish Evangelical Mission, 147; Episcopal Mission, 69; Okitkon, 49; Constantine, 12; Toptok, 13; total, 290. Eaton Reindeer Station: Government, 423; Episcopal Mission, 80; Moses (Yukon native), 65; Martin Jacobsen (Eskimo), 20; total, 588. St. James Mission (Episcopal), 92. Total, 3,323.

Of the 63 herders and their families, making an aggregate of 113 Norwegians, Finns, and Laplanders brought out in 1898 in connection with the reindeer enterprise, 3 men have died; 12 men and their families, aggregating 24 people, have returned to Lapland, leaving 86 of the party still in this country. Of these 86, from 17 to 20 have made fortunes in the gold-mines since the expiration of their term of service with the Government. That

only 29 deer were imported from Siberia during the summer was due to two causes—first, that the Bear was able to make but one visit to that coast during the season, on account of the additional service imposed upon it by the rush of miners and others to Cape Nome; and second, that a great epidemic of la grippe, measles, and pneumonia swept the whole region and affected nearly the whole population, and although the Bear cruised hundreds of miles along the coast of Siberia, calling at the various camps of the reindeer men, it was unable to secure but the small number given above.

At nearly all of the herds many of the herders were sick, a number had died, and the people were in a discouraged and despondent condition, so that men could not be found to drive up and catch the deer and the owners were unwilling to sell.

This epidemic extended the whole length of the Aleutian Islands, along both the American and Asiatic shores of Bering Sea, to Cape Prince of Wales and into the arctic, along the Siberian coast beyond Cape Serdze Kamen, and up the

American side to Point Hope; also on the Lower Yukon river.

Reindeer Mail Service.—During the summer of 1899 the Second Assistant Postmaster-General gave to Mr. William A. Kjellmann, superintendent of reindeer in Alaska, as subcontractor, the carrying of the mail on route 78110. This route called for three round trips during the winter of 1899 and 1900 between St. Michael, Eaton, Golofnin, and Kotzebue, the latter place being north of the arctic circle. The Eaton station is on the direct winter route between Dawson, the Yukon valley, and Nome, and its station post-office is the distributing point for the mails going north to Kotzebue, south to St. Michael, west to Golofnin, Nome, Teller, and Cape Prince of Wales, and east to Yukon valley, Dawson, and the States. Mr. Kjellmann, being required to return to the States on account of sickness, gave the work into the hands of Mr. David Johnsen Elliott. Mr. Elliott employed Johan Peter Johannesen, a Lapp, as mail-carrier. The service was successfully performed with reindeer, each round trip being 1,240 miles through a wilderness without a road.

Early in the year the Post-Office Department concluded to give Nome a semimonthly service, and the contract was given Mr. William A. Kjellmann. Mr. Kjellmann being sick and in the States, instructions were sent to Dr. F. H. Gambell to take charge and see that the mail was sent through without delay. These instructions reached Eaton in February, 1900, and on the 1st of March the reindeer started from Eaton with the mail for Nome. Mr. S. Newman Sherzer was released from his duties as assistant superintendent at the station and appointed manager of the reindeer mail service to Nome. Five consecutive successful trips were made, four of them with reindeer and sleds. The five trips completed the winter contract. The round trips, a distance of 480

miles through a country without a road or trail, were made as follow: First trip, fourteen days; second trip, thirteen days; third trip, eleven and one-half days; fourth trip, eleven and one-half days; and fifth trip, fifteen days. The actual traveling time was from one to two days less than the foregoing figures, as a rest of twenty-four to thirty hours was taken at Nome and a shorter rest at Golofnin each way.

As the instructions for carrying the mail came suddenly and unexpectedly, there was no opportunity for preparing the route for relays of reindeer, but the same deer made the round trip.

At the request of Mr. N. V. Hendricks, subcontractor, on the route between Weare via Eaton and St. Michael, Superintendent Gambell furnished his mail-carriers with reindeer, pack-saddles, and sleds between St. Michael, Eaton, and Nulato, a distance of 180 to 200 miles each way.

The above routes aggregated between 6,000 and 7,000 miles that were successfully covered by the reindeer. The superintendent, in closing this part of his report, says: "Our success in carrying the mail was due to three conditions: First, the capability of the deer; second, the close attention given to the work by Mr. Sherzer; and, third, the expertness of the driver, Nils Klemetsen."

A contract was made with Superintendent Gambell for carrying the mail with reindeer during the winter of 1900-1901 between Eaton and Kotzebue, a distance of approximately 250 miles. The contract calls for two round trips during the winter.

There being an unusual number of prospectors in the country during the winter of 1899-1900, Mr. Lopp established a reindeer express between the mining-camps at York and Nome. As far as the deer were concerned the line was a success; but there being an insufficient amount of patronage to make it profitable, the line was discontinued after two round trips.

The deer were also used to a limited extent in the carrying of freight.

One of the most important events in the year's work was the placing of the first herd on St. Lawrence island, which Dr. Jackson thus graphically describes in his report:

"It had been in the plans of the department for two or three years to stock this large and important island with a herd of reindeer, but it had not been convenient to do so until the present season. Reaching the village, we met an unexpected difficulty. The people were so discouraged by the large number of deaths that they had lost all hope and ambition, and did not care whether they secured the reindeer or not, although in several preceding seasons when we visited them they had been begging and urging that deer should be placed upon their island. The temporary discouragement was so great that none could be found who were willing to become herders. Under the circumstances, nothing could be done but abandon the project of placing deer upon the island and return the deer to Teller Reindeer Station. During the night, however, some of the younger men of the village who had been off hunting returned, and finding that I had decided to take the deer away, they called a meeting of the more progressive men of the village and came to me with their earnest remonstrances against not landing the deer. When I informed them that it was a question of finding a number of young men who were willing to become apprentices and learn to manage deer, they at once offered their own sons. Consequently, on the afternoon of the 30th, 29 reindeer were landed on the island to the eastward of the village."

ANGLICAN CHURCHES. General Statistics.—The voluntary offerings of the Church of England for the year ended Easter, 1900, as tabulated and published in *The Times*, London, by Canon Burnside, the honorary editor of the Official Year-Book of the Church of England, were as follow:

I. Funds contributed to central and diocesan societies and institutions: 1, Home missions, £599,406 14s. 10d.; 2, foreign missions, £831,093 14s. 9d.; 3, educational work, £132,752 9s. 9d.; 4, the clergy (educational and charitable assistance), £180,515 4s. 8d.; 5, philanthropic work, £522,829 8s. 8d.; total, £2,266,597 12s. 8d.

II. Funds locally raised and locally administered: 1, For the parochial clergy, £822,878 0s. 2d.; 2, for elementary education, £1,119,760 11s. 3d.; 3, for general parochial purposes, £3,561,756 11s.; total, £5,504,395 2s. 5d. The total voluntary contributions thus amount to £7,770,992 15s. 1d.

The statement was regarded as comparing most favorably with that of the previous year, and as showing that up to the date of closing the accounts the claims of church work had more than held their own under the strain of the various national calls for generous assistance in other directions. A total increase was shown of £306,558, two-thirds of which belonged to the funds contributed to central and diocesan institutions, and one-third to the fund administered locally; but the increase in the former was the more marked, because those funds amount to £2,250,000, while the local funds come to £5,500,000. An examination of the figures in detail will show that the following interests advanced in the year under review, roughly, to the extent of the sums given in round numbers: Home missions, £50,000; foreign missions, £58,000; educational work, £13,000; philanthropic work (including a sum of £189,757 for nursing institutions, convalescent homes, and cottage hospitals), £94,000; the maintenance of parochial clergy, £24,000; and general parochial purposes, £139,000. Regret is expressed by the editor of the Year-Book that the two items in which a decrease is shown are the societies for assisting the poorer clergy and their families, £13,000, and the funds contributed for elementary education, £57,000; also that no way has been found to estimate the support given yearly by Church people to the Bible Society and other inter-denominational agencies.

The average income of the English beneficed clergy, as returned in the Official Year-Book, is £249 per benefice. The lowest average is in the diocese of Sodor and Man, £249. The highest is in the diocese of London, £420; the next highest in that of Liverpool, £341; and the next in that of Manchester, £357. The funds for the augmentation of benefices would amount to about £3 each if they were equally distributed.

By a parliamentary return made early in the year, it is shown that the total price of the advowsons sold under the Lord Chancellor's augmentation act from the time it came into operation, Aug. 15, 1892, to Dec. 6, 1900, was £234,859. The money has nearly all been invested with the ecclesiastical commissioners, but is under the control of the Lord Chancellor. The funds may be used to augment the income of benefices in the gift of the Lord Chancellor up to £400 a year. Since August, 1892, £2,086 had been distributed to 14 benefices in grants made to meet equivalent grants. A balance of £2,867 remained as yet unappropriated.

The total income of the Episcopal Church in Ireland for 1900 was £525,458. The investments in securities amounted to £7,627,424.

The Church Missionary Society.—The annual meeting of the Church Missionary Society was held in London, May 30, Sir John Kennaway, Bart., M. P., presiding. The report showed that the total receipts of the society from all sources had been £350,492. The ordinary and appropriated contributions had produced together the largest amount on record, excluding centenary funds, the sum being £313,000, or £9,000 more than in the previous year. The appropriated contributions had increased so rapidly that, after using £82,000 against the expenditure of the past year, £52,000 remained in hand, applicable to the current and future years. The centenary funds amounted altogether to £212,000, and enabled the committee to increase the society's working capital to £100,000, to wipe off the remaining mortgage on the Church Missionary House, and to add a new building to the Children's Home, as well as to cover a large part of the additional outlay in the missions caused by the increased number of missionaries in the past four years. The actual expenditure of the year had been £369,330, while the sums available for meeting it were so far deficient as to leave an adverse balance of £42,883. This had been partly met by applying £10,000 out of centenary funds and a sum of £21,000, known as the Butterfly fund, whereby it had been reduced to £11,883. The society had in the mission fields 558 stations, 9,156 workers, including 1,176 European missionaries (excluding medical missionaries), 84 medical missionaries, 7,896 native Christian workers, with 76,370 communicants and 281,584 native Christian adherents; while 19,083 persons had been baptized during the year. The society maintained 2,337 schools and seminaries, which had been attended during the year by 104,755 pupils and seminarists. In connection with the medical work, 11,887 in-patients and 747,839 out-patients had been treated. In China the mission had been spared the loss of European lives, and a few of the missionaries had been allowed to remain at their posts; while at stations from which the missionaries had been temporarily withdrawn, the work had been regularly carried on by Chinese clergy and teachers. In reference to the outbreaks of 1900 in China, the report said that "the Chinese nation, as a whole, no more deserves the hard words often spoken of it than do the missionaries. Not only are the people as a rule friendly, but even the officials have repeatedly shown kindness and courtesy to the foreigners, whose high motives they perfectly understand, particularly to the ladies. Few missionaries in the disturbed districts would have escaped the cruel fate decreed by the Empress-Dowager if several of the viceroys and mandarins had not risked their own heads to protect them." The number of Chinese converts had been considerable, including 627 baptized at the Fuh-Kien mission alone. In India the nascent churches were being led on to self-support, self-government, and self-extension. There was, however, a marked revival in the zeal of the devotees of the old religion, and the weaknesses of native Christians were at times the sorrow of the missionaries. At Khartoum the committee was anxiously awaiting the removal of the prohibition of missionary work. The number of new missionaries, especially of women, showed some falling off. Though clergy were wanted at home, yet, in comparison with the majority of mission stations, the most undermanned parish in England had a plethora of workers.

The report of medical work showed that during the year the number of beds in hospitals had increased from 1,484 to 1,613; of in-patients, from

11,400 to 11,887; and of out-patients, from 630,000 to 753,000. A medical training-house for ladies had been opened at Bermondsey. The income of the auxiliary had risen from £10,600 to 12,930, besides £2,737 brought forward and £3,797 from the Centenary fund. The expenditure had been £17,962, but the debt balance was only £484.

The General Committee of this society, at their meeting on July 9, resolved, in view of the somewhat embarrassed financial condition of the society, to make a scrupulous inquiry, and see whether the present income could be in any way better applied, and also to organize new endeavors to reach the untouched resources of Christian England.

The "Propagation Society."—The gross income of the Society for the Propagation of the Gospel from all sources had been £178,396, showing an excess of £42,000 over the total of the previous year; but the regular collections, subscriptions, and donations had fallen off by about £1,200. The bulk of the gross increase was constituted of special subscriptions for sufferers by famine in India and for the South African Church, and for the Bicentenary fund. Twenty-six offers had been received from men willing to work abroad, and 5 clergymen and 14 laymen had been accepted; while in the foreign field 45 clergymen, many of whom had been educated in the society's local colleges, had been placed on the list of missionaries.

The society had 761 ordained missionaries, including 12 bishops, 183 of whom were Asiatics or Africans; about 2,900 lay teachers, 3,200 students in its colleges, and 38,000 children in its schools in Asia and Africa.

A meeting for young people held in connection with the bicentenary of the society, March 9, was addressed by the Archbishop of Canterbury, the Rev. Roland Allen, of China, and the Bishop-designate of London.

At a meeting held in the Guildhall, London, Feb. 12, in celebration of the bicentenary of this society, the lord mayor presided, attending in state, and spoke of the extent of the work of the society. The Archbishop of Canterbury called attention to the agency of missionary enterprise in spreading religion and advancing civilization and commerce, and urged the duty of Englishmen to support it liberally. Lord Hugh Cecil, M. P., referred to the dangers, unknown to it in its early times, with which it was now beset, through efforts to make it the tool of political ambition. Resolutions were passed, recognizing "with devout and humble thankfulness to Almighty God" the measure of success which had been vouchsafed to the labors of the society, and invoking the divine blessing to continue the work, in which the society had been instrumental, in bringing about the spiritual federation of the Anglican communion throughout his Majesty's dominions.

At the closing meeting of the bicentenary celebration, held at Exeter Hall in June, the primate presiding, it was reported that the society had failed to raise the whole of the proposed amount of £250,000. Up to the present time only a little more than £50,000 had been paid into the fund. Of this sum, £30,000 were being devoted to South Africa. The closing sermons of the celebration were preached in St. Paul's Cathedral by the Archbishop of Canterbury and Canon Newbolt, and in Westminster Abbey by Dr. Alexander, Primate of Ireland.

Other Missionary Societies.—The Woman's Mission Association for the Promotion of Female Education in the Missions of the Society for

the Propagation of the Gospel returned an income of £10,672 and an expenditure of £10,483 for 1900.

The report of the Anglo-Continental Society, made at its annual meeting in June, represented that the number of Old Catholics in Austria had grown steadily during the year, although their priests had been refused recognition by the Government, and their meetings had been forbidden by the police. In Italy, while the spurious bishop-elect, the priest Don Miraglia, having obtained episcopal orders from M. René Vilatte, whose consecration was not recognized by the Anglican bishops, had assumed to exercise episcopal jurisdiction, the work of the real bishop-elect, Count Campello, was going on independently, with headquarters at Rome. In France, the number of priests who had left the Church of Rome in connection with M. Bourrier's movement had risen to about 350. The Bishop of Salisbury, speaking of the relations of the Greek and Anglican churches, said that something had already been attained in regard to burial rights, and arrangements concerning baptismal rites might follow; but he did not see any hope of intercommunion in the near future.

The report of the Jerusalem and the East Mission, made at the annual meeting, June 13, the Bishop of Salisbury presiding, represented that the income for the year ending with the month would be about £4,300, showing that the serious decline of the two previous years had been checked. The necessity of having a reserve fund of £1,000 or £1,500 was urged, since now Bishop Blyth, in the unique position of representing the Anglican communion in the mother city of the faith, was left with unfinished buildings and an insufficient staff. This did not give to the other churches in Jerusalem a true idea of Anglican zeal for missions. It was represented by speakers who had visited the mission that the bishop came constantly in contact with the Mohammedan officers, as well as with the Oriental and Roman branches of the Catholic Church. The cordiality shown by the Greek patriarch and priests toward the Anglican Church was very striking. Not only representatives of the Church Missionary Society were found in Bishop Blyth's house, but non-conformists, who were carrying on a great many branches of Christian work in the Holy Land, and the bishop seemed in very friendly touch with all of them.

At the annual meeting in behalf of the South African United Church, May 23, it was represented that the Society for the Propagation of the Gospel had decided to send out large assistance. While Anglican relations with the Dutch Reformed Church had always been friendly till the war, the hope of union had now been postponed. The natives, however, would be better disposed toward the English Church. The money furnished by the Propagation Society could not be touched till its allotment had been discussed by all the dioceses.

A reception given to missionary and colonial workers by the Archbishops of Canterbury and York on behalf of the United Boards of Missions, May 22, was attended by representatives of the Society for the Propagation of the Gospel, the Church Missionary Society, the Universities Mission to Central Africa, the South American Missionary Society, the Oxford Mission to Calcutta, the Delhi Mission, the London Jews' Society, the Church of England Zenana Mission, the Church of England members of the Bible Society, the Colonial and Continental Church Society, and many diocesan fund committees. The guests were

addressed by the Archbishops of Canterbury and York and the Bishop of London, and responses were made by the Archbishop of Cape Town and Mr. Eugene Stœck.

Other Societies.—The annual report of the Church Pastoral Aid Society showed that 1,200 parishes were now giving and 700 receiving assistance through its means. The year's grants numbered 1,001, for the maintenance of 744 curates, 152 lay agents, and 105 woman workers. The society's dual basis, supplying both clerical and lay pastoral aid, was becoming all the more valuable in consequence of the decrease in the supply of candidates for ordination. The total income for the year had been £72,117, including £17,593 in legacies, and a net increase of £4,101 in the grants. The expenditure had been £61,902.

The income of the Additional Curate's Society for 1900 was £37,034, a considerable falling off; while the expenditure was £58,240, and funds and legacies had to be drawn upon to make the accounts square. This expenditure had elicited an even larger sum, £59,213 having been locally raised to meet the grants. Grants were being made toward the stipends of 1,247 assistant clergy in 1,034 poor and populous parishes; and about 5,000 parishes were recognizing the privilege of helping in this work. Since its formation the society had paid £1,915,007 in grants, to meet which £1,636,769 had been locally raised; while sums of £11,985 and £42,150 respectively had been granted and locally raised to endow newly constituted districts. The allied Ordination Candidates' Exhibition fund had been able in the past year to distribute a larger sum than in any of the previous ten years, and 1901 had begun with 130 students on the list.

The Curates' Augmentation fund had received £14,931 during the year, of which £8,115 were paid in grants. The 176 curates benefited had served on an average twenty-seven years, but their average stipend was less than £130.

The Church of England Incorporated Society for Providing Homes for Waifs and Strays had received during the year £44,547 for the general fund, £26,980 for special funds, and £1,647 in loans, and had expended £69,770. It had, at the close of the year, 1,566 girls and 1,260 boys under its care.

The two hundred and forty-seventh anniversary of the corporation of the Sons of the Clergy was celebrated in London, May 8. The object of the corporation was defined by the Dean of Windsor to be to help necessitous clergymen, their widows and dependent relatives, of every diocese in England and Wales. In the past year more than £24,700 had been paid to those for whom the society existed, £15,000 alone going in pensions and grants to widows and aged single daughters of clergymen. The number assisted was 1,778. The corporation was by far the oldest, the largest, and the most comprehensive of the clergy charities.

The Church of England Scripture Readers' Association, it was represented at its fifty-seventh annual meeting in the Church House, Westminster, employs no reader who can not satisfy the committee as to his Scripture knowledge and his full acceptance of the plain teachings of the Prayer-Book and his loyal allegiance to the principles of the Reformation. The number of grants was now 123, and the parochial clergy testified to the intelligence, energy, and satisfactory results of the work done. During the year the readers had paid 430,400 visits and calls, of which 7,720 were to public houses, factories, and common lodging-houses; had presented 2,266 children for

baptism, and brought 2,070 to schools; had brought forward 490 persons for confirmation, induced 9,200 to attend service, and reported 13,840 cases to the clergy for relief; and had conducted or taken part in 21,520 services and meetings. The income, £12,071, showed an increase of £1,701, legacies having risen from £900 to £2,484. Grants had been received from the Bishop of London's and other diocesan funds, the parishes, and a number of companies.

The Church Historical Society was formed in 1894 to meet attacks on the historical position of the Church of England. The report issued in January, 1901, mentions courses of lectures that had been delivered during the past year at Liverpool, Wood-Green, Birmingham, Manchester, and Birkenhead, and the issue of a number of new publications. A course of twelve lectures on Typical English Churchmen was to be delivered in the spring of 1901 at St. Margaret's, Westminster, and at St. Alban's Abbey.

A Queen Victoria Memorial fund has been instituted by the council of the Church Army as a memorial of the sympathy shown by the late Queen with its work. It is intended to raise £6,000, to be devoted to such purposes as the provision and equipment of a home for inebriate women; the endowment of a Victorian evangelist and mission nurse for work in the poorest parishes; and the provision of a home of rest for mission workers.

Sunday-school Institute.—The annual report of the Church of England Sunday-school Institute, presented May 8, referred to a diminished attendance on Sunday-schools, which was attributed to a slackening fervor in church work and a growing interest in pleasure. The returns for 1899 had shown a net decrease of 7,000 scholars, though the number in the infant classes had increased by 10,000. The past year's returns showed decreases of nearly 10,000 infants and 1,027 boys, and an increase of 3,727 girls. The number of members of Bible classes had fallen from 470,000 to 454,000, and the number of teachers was smaller than a year previous. Training lessons or lectures had been given under the direction of the institute all over the country to thousands of teachers, of whom 519 entered for examination, and 404 obtained prizes or certificates. There were now in union with the institute 36 associations in London, 339 in other parts of the kingdom, and 20 in India and the colonies. The year's income had been £9,171 from sales and £1,530 from other sources.

The committee declared that no other organized church work could show such results as had been achieved by the Sunday-school in the last century. The Bishop of Exeter said he was glad the Bible stood first as the foundation of all the institute's teaching. It was right to teach the Prayer-Book and Church history, but it was absolutely essential that nothing should be put before the Bible.

Liberation Society.—The triennial Conference of the Society for the Liberation of Religion from the Patronage and Control of the State was held in London, April 30, Mr. J. Carvell Williams presiding. The report reviewed the public discussions of the past three years as related to the cause which the society was seeking to promote and the aspects of legislation that bore upon it. It claimed that, in spite of the most unfavorable conditions, the strength of the liberation party in Parliament had not been weakened by the elections of 1900. Of the 30 Welsh members of Parliament, all but 4 were pledged to support disestablishment. In Scotland, however, a majority of members were now opposed to disestablish-

ment, instead of supporting it. The demand for church reform and self-government was touched upon, and it was asserted as a significant fact that a large body of Churchmen were now at one with the society in desiring the liberation of religion from state control; but it was also intimated that these persons had yet to learn that such freedom could exist with the retention of state support. The income of the society for the past year had been £4,321, and the expenditure £4,159. The chairman of the meeting in his address, referring to a suggestion made by the Rev. Dr. Joseph Parker at the meeting of the Congregational Union that the Liberation Society should cooperate with the Free Church councils, said that they had offered to send deputations to meetings convened by those bodies; but while some of these councils regarded it as their duty to promote Free Church principles by openly advocating them, there were other councils which held that their action should be of a strictly religious character; and they regarded the promotion of disestablishment as political or semipolitical. Then some of the members of those councils belonged to churches which had not yet formed a pronounced opinion in favor of disestablishment, and they were unwilling to be placed in a false position by any combined action. Resolutions were passed opposing a Roman Catholic university for Ireland, to be created and endowed by the state; protesting against "a professedly national system of education which leaves a large part of the nation without any local control over the schools which it is called upon to support." Another resolution declared that "the conference gladly recognizes the desire for greater freedom now everywhere prevalent in the English Episcopal Church; together with an increasing conviction on the part of the members that as a spiritual institution it should be able to adapt itself to existing religious requirements. But so long as the Church has rights and privileges conferred upon it by the state, and is in possession of large national endowments, the conference feels bound to oppose all attempts to diminish the control of Parliament over Church affairs, or to alter its character as a national institution. It regards with great satisfaction the acknowledgment by a growing number of Episcopalians that their Church will not be entitled to enjoy the right of self-government possessed by nonconformist churches until it ceases to be established and endowed by the state." The meeting further protested against the "tithe rent-charge" scheme, relieving the clergy from payment of half the rates on tithes, and advised that the relief of clerical distress, if granted from national sources, should come from certain available funds, but expressed the opinion "that the adequate maintenance of the Church's ministers will be best secured by reliance upon the free-will offerings of those to whom they minister—now withheld because of the existence of large state endowments for ecclesiastical purposes." The proceedings at the annual meeting of the society included a number of addresses on subjects connected with its purposes.

At the autumnal meeting of the council of this society, in October, a resolution was passed expressing the opinion that "the time has arrived when new and more aggressive efforts should be made to produce a general conviction that only by means of disestablishment will the Church be enabled to correct admitted evils and the state be freed from obligations which it is now admitted to be unfitted to discharge." Another resolution condemned the establishment by law of the

Churches of England and Scotland as involving a violation of religious equality, depriving those Churches of the right of self-government, imposing on Parliament duties which it is incompetent to discharge, and as being hurtful to the religious and political interests of the nation.

The English Church Union.—The forty-second annual meeting of the English Church Union was held in London in June, Lord Halifax presiding. In his address the president referred to the extent to which progress in the Church during the past sixty years had been due to the rank and file rather than to the rulers of the Church. This would continue, and the extremists of to-day would be found to be the moderates of to-morrow. While the Church of England had not and could not forbid reservation and incense, the bishops ought to be obeyed if they made regulations as to the conditions under which the sacraments should be reserved. It was of no use to attempt church reform until the condition of lay franchise was fixed at communion at least twice a year. The speaker claimed that the period of shock and disintegration was past and the period of unification had come. Everywhere a desire appeared to come together and understand one another better. The anniversary sermon was preached by Dr. Sanday. The annual report represented that the financial position of the society had suffered by reason of the various public appeals of other kinds. The amount received in subscriptions had been £504 less in 1900 than in 1899. In 1893, when the membership was some thousands less than it was now, the subscriptions amounted to £101 more than in the year under review. The appeals for aid for the Defense fund brought in £2,282 between January, 1900, and April, 1901, and a sum of £800 was still needed for this purpose.

At a previous meeting of the union, held in March, Lord Halifax, being prevented by illness from attending, sent a letter, in which he drew attention to the importance of the distinction between the idea of the collective episcopate and, *a fortiori*, of any member of the episcopate, as an independent teacher above the Church, and the idea of the episcopate as an integral part of the body. The episcopate, he urged, could "only lawfully impose on the Church her own belief, or upon the individual the belief of the body of which he is a member." All the addresses at this meeting urged the necessity of diocesan synods to form the intermediate link between the parish synod and the convocation.

The Church Association.—At the autumnal meeting of the Church Association, held in Birmingham, Nov. 9, 1900, Mr. Andrew Lamb read a paper on The Urgent Need of Fresh Legislation to amend the Procedure of the Ecclesiastical Courts in the Matter of Ritual, in which he held that the present enactments were not efficacious. In the discussion which followed, suggestions were made that recourse should be had to lay tribunals under the act of Elizabeth, or to action for breach of civil contract. At a public meeting held in the evening it was resolved, "that, whereas the bishops have done nothing to enforce the laws of the Church of England as laid down by her Majesty's judges, but have fostered re-introduction of the mass and of the confessional by ordaining, licensing, inducting, and preferring clergymen bent on promoting the reunion of Christendom by adopting the usages of the most corrupt portion of the unreformed churches, it has now become the urgent duty of the electorate to safeguard the nation from the great social evils of priestly dominion."

At the spring conference of the Church Association and National Protestant League, held in Liverpool, May 16, Mr. Andrew S. Lamb, presiding, spoke in praise of the reformation settlement, and dwelt upon the importance of retaining the declaration against the mass. The Convocations bill was criticised as contemplating a formulated self-government, which would lead to disestablishment. Resolutions were passed at the public meeting condemning the "intrigues of Romanizing clergy, which endangered the civil, social, and religious liberties of the British nation"; commending the efforts of the Church Association to maintain the Protestant religion established by law; and protesting against the attempt of the Roman Catholics "to tamper with" the statutory declaration made by the Sovereign as being dangerous to the Protestant succession to the throne; and requesting the Protestant electors of the country to urge their representatives in Parliament to oppose strenuously any legislation which would interfere with the bill of rights as being mischievous and unconstitutional and fraught with great danger.

The abandonment of the bill amending the royal declaration was announced by Mr. Balfour in the House of Commons on Aug. 8.

At the annual meeting of the Ladies' League for the Defense of the Reformed Faith in the Church of England, Lord Llangattock presiding, a report was made that the membership had doubled, the present number of members being 4,443, in 29 branches. A sisters' home had been opened in Chelsea, and a large number of ladies had come to it. The words "and promotion" were ordered inserted after "defense" in the name of the society, so that its name will hereafter read "The Ladies' League for the Defense and Promotion of the Reformed Faith in the Church of England." The meeting pledged itself by resolution to support pure scriptural religion and worship, and to cultivate an earnest spiritual life.

Convocation of Canterbury.—At the meeting of the Convocation of Canterbury, Dec. 11, 1900, the Dean of Lincoln, preaching in Latin, referred to the terms of the writ which still summoned Convocation to consider not only Church matters proper, but the "welfare of the public good and the defense of the kingdom." Convocation no longer met to vote taxes, but to deal with the larger interests with which the Church should concern itself. It should be as a guide to the nation, inculcating patriotism and giving it a high ideal. On the subject of recent controversies in the Church of England, the speaker pleaded for a good feeling and temper on all sides, and for some constitutional means by which the Church as a whole might consult together and express its wishes. The great difficulty at the present moment was that the Church had got out of touch with the laity. Proper representation in the Church assembly of both clergy and laity was necessary to enable Parliament to know what the Church as a whole really wished, and also to restore harmony within the Church itself. Archdeacon Lightfoot was reelected prolocutor of the lower house.

The Convocation met for the first time in 1901, Feb. 15. The archbishop spoke in the upper house of his reception during the week at Lambeth, of a deputation on the bill for the reform of Convocation and the constitution of houses of laymen in connection therewith, and suggested, in view of what had taken place then, that the consideration of the bill in that house might be postponed. Perhaps, in the meantime, it might be possible to ascertain the views of the Government on the

matter. Addressing the House of Laymen on the same day, the archbishop, expressing the trust that before long the houses of laymen in both provinces might have legal recognition, said that it would be very important that the House of Laymen should be considered by the nation at large as really representing the laity, and consequently they must take care that whenever they proposed anything of that kind the franchise for the election of members of the House of Laymen should be wide enough to satisfy the whole of the laity as a body. In the lower house a resolution was passed, in view of the strong feeling known to exist in many quarters that there should be a representation of the laity duly authorized to coöperate with the convocations of the clergy, requesting the archbishop to direct the appointment of a committee of the lower house "to inquire into and report upon the methods of electing representatives of the laity and the nature of the authority assigned to them in other branches of the Anglican communion and all churches in communion with it." It was also made a part of the duty of the committee to inquire into the definition of "a lay member of the Church," adopted in various branches of the Anglican communion, both for purposes of voting and as a qualification for acting as a representative. A resolution adopted in the House of Laymen approved of some amendment of the constitution of the convocations and of joint sittings, and of consultative houses of laymen, but expressed the opinion that action should at present be confined to the former subject, and that a joint meeting of the houses of laymen of both provinces should be arranged for "to consider how and on what basis the representation of the laity might best be carried into effect. The upper house, by resolution, declared it expedient that diocesan organization, wherever practicable, should be established with a view to "providing for some help and instruction for deacons in preparation for the priesthood and the promotion of study and the maintenance of a high standard of life among those who have been ordained." A message was communicated to the houses from the episcopal administrator of the Old Catholic Church in Austria, expressing sympathy over the death of the Queen, and prayer for blessings upon the reign of King Edward VII. Another message, from the Patriarch of Constantinople, announced the election of Photius, Archbishop of Nazareth, to be Pope and Patriarch of Alexandria.

At the meeting of the Convocation, May 8, the bill for reform of Convocation as offered in Parliament by the Bishop of Rochester was presented by him and approved in the upper and lower houses. The bishop explained that he had been allowed in the preceding year to bring in a bill which provided for a possibility of reforming the existing convocations, the creation of a representative lay element, and the uniting to a certain extent of the two existing convocations. Since then it had been thought desirable to proceed with the first and third of these objects, postponing the second. The bill in its present form was entitled "The Convocations of the Clergy Bill," and confined itself to the two points mentioned. They wished Parliament to declare that the convocations had power, with the King's assent, to amend by canon the constitution of the Convocation and the representation of the clergy, and also to provide for the joint sittings of the two convocations. The speaker desired to reiterate the fact that it was not their will, but only under pressure of circumstances, that the committee brought forward their proposal for the re-

form of the clerical body without associating with it the proposals for the constitution of a representative lay house. They commended the bill to both houses as a necessary step to the end they had in view—of giving the Church more power in exerting the energies of its life in a free and wholesome manner. The archbishop thought the bill might be carried through Parliament without very great difficulty. It was comparatively a very small measure. It did not propose to add to the power of Convocation in the slightest degree. It did not give them the right of doing anything which they had not already. It enabled the clergy to enter more thoroughly into the action of Convocation by being more thoroughly represented. The constitution of the lower house of Convocation had never been handled by any act of Parliament, and a declaratory act, therefore, was the proper method of enabling the clergy to express their opinion upon their own proper business more effectually than they could now. The resolutions provisionally passed at the previous session of Convocation with reference to the supply and training of candidates for holy orders were taken up and passed in the upper house. During the discussion of them, the Bishop of London mentioned five hindrances which he thought stood in the way of men's seeking ordination. They were non-realization of the objectiveness of the call, the unsettlement of men's minds, the attractions of the Indian civil service, the poverty of the clergy, and the lack of encouragement given at home and at school to men to come forward for ordination. In the lower house a committee was appointed to consider the causes of clerical poverty among both the beneficed and the unbeneficed clergy, together with the objects of existing clerical charities and the principles on which the managers act in making grants; and to inquire into and report upon the methods adopted by existing institutions and associations for increasing permanently the incomes of poor benefices. Reports of the Committee on Ecclesiastical Courts, embodying resolutions of the joint meeting of the two convocations in July, 1900, and of the Committee on "Ecclesiastical Dilapidations," advising further consideration of the subject, were adopted. In the House of Laymen resolutions were passed condemning exercise of pressure upon young people to make auricular confession; directing inquiry into the religious privileges of members of the Church of England in workhouses, lunatic asylums, and houses of industry; and approving the use of the Revised Version of the Bible at the lecterns in public services when it is desired and is not open to well-founded objection—the term "use" being understood to mean "the occasional employment of lessons from the Revised Version when for the interest of more accurate translation it is desirable."

At the meeting of the Convocation, July 2, the Bishop of Rochester presented the report of the joint Committee on Ecclesiastical Courts. It urged the strengthening of the diocesan and provincial courts, that they might dispose, as courts of first instance, and in such a way that the decision should not be merely the individual decision of a single judge, bishop, or archbishop, but should have a more representative character, and so be more likely to commend itself to the judgment of the litigants on either side. Resolutions were agreed to by the upper house to the effect "that it is desirable (a) to strengthen the constitution of the diocesan and provincial courts; (b) that complaints concerning ritual or doctrine should, if the promotion of the suit be approved by the bishop, be tried by the diocesan court in

the first instance; (c) that if an appeal be carried to the provincial court, it should there be heard before a court constituted as hereinafter proposed." The resolutions further embodied recommendations concerning the constitution of the diocesan courts and the provincial Court of Appeal, with a provision that in all cases arising in the diocese of the archbishop the archbishop of the other province shall take his place in the Court of Appeal. These resolutions were concurred in by the lower house, except the one concerning the constitution of the provincial Court of Appeal, which the archbishop was requested to refer to the joint committee. Resolutions were adopted contemplating a national system of elementary education, working according to principles which were set forth, to take the place of the present system, to be administered by authorities representing and acting over large areas, embracing one or more administrative centers. In the lower house the proceedings at the confirmation of the election of bishops were considered, especially with reference to the hearing of objections. The resolution adopted by the house advised: "1. That no objection should be received that has not been communicated to the vicar-general in writing at least seven days beforehand, and allowed by him to be presented as an objection in due form of law. 2. That a copy of the schedule of objection should be sent at the same time to the bishop-elect and to the dean of the chapter by whom he was elected. 3. That the schedule of objection should be read aloud in court by an officer of the court, who should then similarly read such reply, if any, as the bishop-elect or the dean and chapter shall have sent in writing to the vicar-general. 4. That the vicar-general shall, at his discretion, use the power of prerogation to another place not consecrated." A resolution was passed expressing the earnest hope of the house that the Government would see its way to include the financial relief of voluntary schools as an integral feature in its forthcoming measure of educational reform. The resolutions of the joint committee on the accession service were agreed to in both houses. The House of Laymen took up the consideration of the report of the joint committee of the late houses of laymen of the two provinces on the representation of the laity, which had been sent down to the house by the archbishop in February preceding. No conclusion was reached.

The two houses were invited to assemble in form of a committee (July 3 and 4) to meet the Convocation coming in the same form from the northern province for the discussion of the questions of the future of voluntary schools, the course to be taken by the convocations in regard to the convocations of the clergy bill, and ecclesiastical dilapidations.

Convocation of York.—At the meeting of the Convocation of York, Dec. 11, 1900, Chancellor Elpin was unanimously elected prolocutor of the lower house for the fourth time. Addressing the house, he said that he would specially recommend to its consideration the question of the lay franchise, because it was quite certain that if any greater measure of self-government was to be accorded to the Church, it could be obtained only on the representative system.

At the meeting of the Convocation, Feb. 21 and 22, the lower house, in the discussion of a motion approving the Convocation bill then before Parliament, adopted an amendment approving of the participation of the laity in Church affairs, and requesting the president to commend the working out of the problem to the House of Laymen.

At the session of May 8 and 9, a resolution of Feb. 6, 1898, declaring that the present procedure at the confirmation of the election of bishops needs to be amended, and requesting the archbishops to consult upon the subject, was reaffirmed by the upper house. The draft bill entitled *Convocations of Clergy Bill* was approved. The House of Laymen adopted a resolution, concerning the report of the joint committee of the houses of Canterbury and York on lay representation, concerning the constitution of the primary electoral divisions in any scheme for lay representation, to which was added a clause defining the qualifications of electors. A resolution was passed in favor of the maintenance of the existing Book of Common Prayer, "subject, however, to such alterations and modifications as from time to time may be approved by the House of Laymen and sanctioned by Parliament." The house expressed approval of the recommendation of the lower house for a retranslation of the Athanasian Creed, but deferred expressing any opinion as to the compulsory or optional use of the creed.

The House of Convocation met July 2 to consider the form of the revised accession service. The service as submitted was unanimously agreed to by the lower house.

Convocations of Clergy Bill.—The preamble to the convocations of clergy bill relates that the convocations are desirous of amending their constitution and their representative system, and of obtaining power to sit as one body, but that doubts have arisen as to their power to make these changes without the authority of Parliament. The first clause enacts that, notwithstanding any doubts arising by reason of 25 Henry VIII, chapter xix, the convocations may have powers with the royal assent and license to make, promulgate, and execute the necessary canons for the above purposes. Clause 2 directs that if the bishops and clergy of the convocations lay before the King in Council a scheme for the union and joint sittings of the two houses, the Council may issue an order confirming the scheme, and this order "shall have effect as if it were enacted in this act." Otherwise the bill does not add to the powers of the Convocation.

Qualifications of Laymen.—The committee of Convocation that was appointed to inquire as to the methods of self-government at work in the various Anglican churches outside of England and Wales, and especially with respect to their franchise and to matters of doctrine and of ritual in which doctrine is involved, have published a report embracing particulars concerning all the churches referred to in the resolution, and information in regard to more than one hundred sees. In a general review of the position of laymen in the parish and in the synods as illustrated in the tables appended to the report, it is shown that if a man is a communicant he is at once admitted to the congregational franchise, and in certain dioceses no others are admitted. If not a communicant he makes a declaration of church membership; but no church accepts the declaration unless it is supported by guarantees which vary in different places. Mere payments for secular purposes are nowhere accepted as a qualification for ecclesiastical privileges. Women are admitted to the franchise in more than half of the American dioceses and in a third of the colonial; also in the Established and the Episcopal Churches of Scotland. Parochial administration, the committee report, contemplates normally vestries or parish councils restricted to matters of finance, congregational registers, etc.; but never includes power

to regulate worship, or goes behind a "presentment" in case of alleged irregularities in the conduct of divine service. The election to diocesan synods is made directly or mediately from the congregations; election to provincial or general synods by the lay members of diocesan synods. The proportion of lay to clerical members varies from that of the Episcopal Church in Ireland, where the laity are two to one, to that of the Established Church of Scotland, where they are barely as many as the presbyters. Considerable variation in the same respect exists as well in the colonies. But what is possible in Scotland, Ireland, the colonies, and the United States, is, the report sets forth, not necessarily possible in England, where every Englishman may in some sense claim that the national Church is his own church, even if he is, as a matter of fact, for the most part absent from its worship.

Deputation to the Archbishops.—A large deputation waited upon the Archbishops of Canterbury and York, Feb. 13, on behalf of the draft of the bill recommended by the two convocations for their reform and the organization of houses of laymen in connection with them. The Bishop of Rochester, who introduced the deputation, explained that Sir Richard Jebb (not being able to be present) had written a letter in favor of an autonomy which should not be inconsistent with establishment; speaking then of the objects which the bill was intended to promote, he said that the existing machinery of the Church was virtually that of mediæval and preformed times, and took no account of modern conditions—among those conditions being a large body of educated clergy in close touch with life in all classes of the population. Such men were most sensitive to their responsibilities. The present organization did not take account of a highly trained body of laity. Then there was the enormous alteration in Parliament during the past three centuries. Parliament itself recognized its unsuitableness, and its interference was most undesirable. In the present proposal no attitude was assumed antagonistic to the rights of Parliament. But in the life of the legislature the principle of devolution was regarded as an indispensable element. They were only asking for a certain measure of devolution. There were no disguise, no ephemeral motives, no party spirit in the minds of the promoters of the bill. It sought to proceed on the line of concentration, viz., how to reform convocation and to associate laymen, and to obtain parliamentary sanction for the scheme. Sir John Kennaway represented that the movement pleaded as its justification the amazing growth of the Church in the nineteenth century. The problems to be confronted were to secure that representative bodies of the clergy and laity should have the authority of a living voice and some power of self-government. While it was hopeless to ask Parliament to consider a scheme of self-government, it was purposed to ask for further power from the houses; and Parliament again would be able to approve or disapprove. In every step Parliament would have power to intervene. There was already the precedent of the Established Church of Scotland, in which was embodied all the principle for which they contended. Bishop Barry spoke from his own actual experience in a colonial bishopric of the working in the colonies of full synodical government, with clergy and laity cooperating. Chancellor P. V. Smith, dealing with the form of the bill, said that in seeking autonomy, its framers had proceeded by adopting existing, rather than creating new conditions. They did not ask that powers in excess of the

existing powers of convocation should be conferred on the new bodies. But when satisfactory bodies had been created, Parliament should be approached and asked for definite powers. The Archbishop of Canterbury, replying to the representations of these speakers, said he had no doubt that it would add to the force and efficiency of the Church if it was intrusted in some effective manner with more ample power of governing itself. He could very heartily support the proposition to empower the convocations to reform themselves, and likewise the general principle that a house of laymen ought to be formed. But the formation for the purpose of perfecting real legislation of the two convocations into a single synod—they still reserving their separate functions for ordinary convocation work—was of even more importance than the formation of a house of laymen. The weak point was the proposed method of forming the house of laymen. The speaker doubted whether Parliament would quite consent to pass a bill in which the formation of a house of laymen was left so entirely in clerical hands, but thought it almost certain that they would insert some provisions definitely indicating what they considered to be a proper definition of a lay constituent of the Church of England. For himself, he would prefer a house of laymen which was not simply the offspring of a body of clergy. "I feel that their independence would be a real gain to the Church, and that the sense of independence would depend upon their being formed not upon lines laid down by the bishops and clergy, but upon lines which more exactly represent their own minds. I have stated the two things which I care about most: First, the formation of a single synod to bind the whole Church into one, leaving to each of the separate convocations the business of its own province; then the houses of laymen, without which we shall never have self-government. But we must be careful how we press anything upon Parliament which will in any way damage in the eyes of the people of England the independence of those houses of laymen when formed." The Archbishop of York agreed with the Archbishop of Canterbury that a house of laymen constituted by the convocations would not be likely to command the confidence of the people generally. "We should deal with the laity," he continued, "not as persons who are taking a particular interest in Church matters or occupy a certain position, but as baptismal members of the body of Christ. We need to keep continually before our minds that we are not giving them a privilege, but calling them to the proper exercise of a right as members of the Church. . . . But it is necessary to ask this question: Granted that you have reformed convocation and your house of laymen, what is the law they are going to administer? What is its basis? It is not the basis of what is called Catholic tradition or evangelical tradition. It must be the law of the Church of England itself as it was reformed three centuries ago. Unless we make that perfectly clear it will be a long time before we obtain such a measure. But . . . if we are large-hearted enough and courageous and not too anxious to keep this body of laymen within a Church limit; if we are not too timid about giving the franchise to those who may seem to stand aloof from the Church, but are still to be reckoned members of the Church; if we remember that the Church is a national Church, and that the nation as a nation has something to say about it, and will not be dictated to by ecclesiastics, we may entertain some hopes of the success of our legitimate claims upon the national Parliament."

The Ritualistic Crisis.—The bishops of the Church of England, Jan. 20, issued a letter to the clergy emphasizing the great and urgent need of united action in order to improve the "unexampled opportunities opening before the whole of Christendom with the dawn of the new century." In view of these opportunities, any causes, it was said, would be the more keenly felt which would tend to lessen the Church's forces to grapple with them.

"Circumstances have given special prominence to certain points in the present condition of our Church which cause very grave anxiety in those to whom by God's appointment the government of it is intrusted. We inherit a form of government which has come down to us from apostolic times. The duty of guiding the Church is intrusted to the bishops, and we can not escape the responsibility. All antiquity is united in teaching that this burden is laid upon them, and if any doctrine can be called Catholic it is that the bishops have a right to call on all the clergy to follow the godly admonitions and submit themselves to the godly judgments of those who are set over them in the Lord. Those who refuse such obedience are practically setting up a form of government which is distinctly not episcopal, and they can not claim that they are guided by Catholic principles or are treading in Catholic paths. In matters of ritual, the regulation of which is expressly committed to the bishop by the Book of Common Prayer, the refusal of a clergyman to obey the solemn admonition of his bishop is a grave offense—still more grave when the refusal sets aside the judgment of the bishops as a body. We therefore put before you that we as a body uphold the duty of submitting to the decisions of the archbishops given on questions referred to them in accordance with the direction in the Book of Common Prayer. We acknowledge thankfully the very general recognition of this duty which has been conscientiously given by the clergy at large. But this has unfortunately not been universal. Brethren, you are well aware of the mischief that must necessarily follow on disregard of the essential principle of all true government. The great work which our Lord has committed to the whole Church, and especially to our own branch of it, preaching the Gospel to the whole world, demands all our energy, and is seriously imperiled if we can not give to it our united force. We entreat you to use all your influence to persuade those—we are thankful to know that they are few in number—who are regardless of our authority, to return to that obedience which alone can expect the blessing of God.

"We recognize the pressing need of various measures of reform to enable the Church to do her work more efficiently, but all real progress in that direction is seriously hindered so long as, even in a few instances, submission to authority is refused. Most of all will this hinder the fulfillment of any hope or desire of obtaining for the Church such a real measure of self-government as would enable us to supply what may be lacking in our system, or to remove any stumbling-blocks out of the way."

Round Table Conference.—The report of the proceedings of the Round Table Conference on ritual, held at the palace of the Bishop of London in October, 1900 (see *Annual Cyclopædia* for 1900, page 20), was officially published in February. The book has an introduction by the late Bishop of London (Dr. Creighton), who said that his desire in promoting the conference was "to bring together various phases of theological opinion, as represented by theologians whose train-

ing enabled them to talk a common language." Preliminary to the opening of the conference, written statements of opinion on its subject were invited by the bishop from each of its fifteen members. Among these expressions was one by Dr. Sanday suggesting an appeal to antiquity as a common ground, and defining antiquity as what was prior to A. D. 451. The Doctrine of the Holy Communion was the subject set for first consideration, after which it was intended to discuss the question of Its Expression in Ritual. The sessions were, however, mainly taken up with the former aspect of the general topic, so that the chairman, the Rev. Dr. Wace, at the close of the proceedings expressed his regret that it "had not been found possible to discuss in principle some important questions of ritual, such as adoration and reservation, and the position of the minister, whether eastward or otherwise." A favorable vote was given provisionally at the beginning of the conference to a suggestion by Canon Gore, for the adoption, as expressing its unanimous conviction, of a statement of Hooker (*Ecclesiastical Polity*, Book V, chap. lxvii, sec. 7), with the supplementary statement, also from Hooker, that "the grace which we have by the holy eucharist doth not begin, but continues life," but it failed of final adoption. A thesis by the Rev. N. Dimock was discussed, setting forth that "in use the consecrated elements are effectual signs for the purpose of the ordinance, seals of donation, and so truly exhibitive proxies of the things signified, whose names they bear in the delivery, which are thus verily and indeed taken and received by the faithful, being really present for the manducation of faith—*cui præsentia sunt omnia præterita*." Canon Newbold proposed the statement that "while the bread and wine retain their natural substance, an addition is made to them, by virtue of which the body and blood of Christ are present really and truly." Three statements were finally adopted. The first, by Prof. Moule, affirmed in its essential points that our Lord is present at our communions, mysteriously, yet absolutely as an object of faith, not on, but at the table; that we should worship him thus present, and revere the bread and the wine "as his equivalent signs of his once sacrificed flesh and blood"; but that Holy Scripture does not give us reason to believe "any especial attachment of his presence to the sacred signs, albeit called his body and his blood by reason of their equivalence as divine tokens." The second statement adopted was by Lord Halifax, alleging that the bread and wine by virtue of our Lord's institution become sacramentally the body and blood of Christ, while in the natural order they remain what they were before; that the holy eucharist is the memorial of the Lord's death, Christ being the real Consecrator, giving his body and blood, "mystically represented and exhibited under the aspect of death"; the presence being not corporeal, but sacramental only; spiritual, after the manner of a spirit. The third statement, offered by Canon Gore, is that "the bread which is of the earth receiving the invocation of God is no longer common bread, but eucharist, made up of two realities, an earthly and a heavenly," there being sacramental identification of Jesus Christ with the bread and wine.

The Bishop of London was requested by the meeting of his diocesan conference in June to call a second Round Table Conference to be held in the autumn of 1901.

Reunion.—A meeting held in the Council Chamber in Salisbury, in the cause of Christian union, Feb. 12, was the result of meetings of rep-

representatives of the different religious bodies in the city held at the beginning of the year, at which a basis for cooperation between nonconformists and Church people was laid in a resolution "that it is the duty of Christians who may be separated by ecclesiastical division to unite when circumstances permit (a) to promote spiritual edification and a healthier and more friendly relationship; and (b) for the furtherance of practical cooperation in matters which affect the moral well-being of the civil community in which they live." The mayor presided, and the addresses were made by ministers of the Established, Free Methodist, Congregational, and Baptist Churches. The Bishop of Salisbury, in closing the meeting, said that while he was not there at present with any definite plan for reunion, such movements ought to tend in that direction ultimately. He believed that the whole counsel of God in this matter would not be revealed to any portion of the people, however large, while it was separated in spirit from the rest; but when the different parts were brought into touch and moral and spiritual harmony by such meetings as this and by similar action elsewhere, they might expect an outpouring of the spirit of wisdom and understanding, as well as of holiness and joy, upon the whole Church, which would lead it to a reunion.

The Church Congress.—The Church Congress met at Brighton, Oct. 1 to 4. The opening sermon by Bishop Welldon, of Calcutta, read, in his absence on account of illness, by the Vicar of Brighton, embodied an appeal to the Church to face the question of reconstruction of religious belief. The Bishop of London preached at a second place of meeting in favor of cultivating unity rather than struggling after an impossible uniformity. The opening address to the congress was by the Bishop of Chichester, who likewise put forth unity rather than uniformity as the object to be sought. The subjects discussed were: Church Autonomy, how exercised by Established and Non-Established Churches, and how it should be exercised in the Church of England, Regard being had to the Restoration of the Church's Synods and to the Convocation Bill of 1900; Authority in the Church of England; The Reformation Settlement—the Appeal to Antiquity as a Principle of the English Reformation of Present-Day Application—the Standard of Catholicity with Reference to Doctrine and Ceremonial; The Empire with Reference to Church Work—the Victorian Era at Home, in India, and the Colonies, and the Possibilities and Dangers of the New Century. Other subjects related to the Church and the schools; temperance and temperance legislation; the Church in relation to journalism, literature, the drama, and art; covetousness as exhibited in commerce, employment, and the excitement of chance; the baptismal vow; social reform with regard to the housing of the poor; Hooliganism; Prayer-Book enrichment and supplementary services; the work of the Church in the army; the cause of and remedy for abstention from divine service; the virtues of faith, hope, and love; assessment and taxation of clerical incomes; difficulties of country churches contrasted with those in towns; bells, belfries, and bell-ringers; and music as an aid to devotion in the services of the Church. The concluding service of the congress was held in Chichester Cathedral, where the Bishop of Exeter preached. For twenty years the sessions of the congress have been followed by a Christian Conference at which men of all denominations have been given opportunity to compare their views.

At the Christian Conference following the present congress, the subjects of religious indifference and moral apathy were discussed.

The Australian Synod.—The Provincial Synod, meeting in Sydney, New South Wales, in August, adopted a resolution hailing with devout thankfulness the announcement of the union of the Presbyterian Churches in the commonwealth, and the contemplated union of the Methodist Churches, as indications of an approach to Christian unity. It also, declaring itself "profoundly conscious of the evils of disunion, and believing that the unity of the Church is agreeable to the will of God," urgently prayed the Australian bench of bishops to consider the whole question of Christian unity, and to approach the various Christian communions with an invitation to their leaders for united prayer and deliberation on the subject. The synod also considered a number of social questions, and passed resolutions expressing its mind on various questions, such as those of lotteries, gambling, street solicitation, the suppression of immorality, and Sunday rest for the police.

ARCHEOLOGY. American.—The American Museum of Natural History has undertaken the exploration, under the direction of Prof. Frederick W. Putnam, of former Indian sites about New York city. One of the objects of the exploration is to prepare a map showing the various towns, camp sites, and burial places, and, so far as possible, to trace out the historical Indian villages. Another purpose is to bring together the domestic utensils, weapons, implements, and ornaments of the different tribes who lived in the region, and to make models of rock shelters and earthworks, so as to present as full a history as possible of the old Indian life in New York. Old Indian sites on Staten Island, Long Island, and Pelham Park, near Westchester, and at Croton have been explored, and considerable material has been secured from shell-heaps, village sites, and burial places. Pottery vessels, implements of stone and bone, pipes, and other pieces of native work, arrow points, ornaments of brass obtained during the early contact with white settlers, a number of Indian skeletons, and the bones of animals, including those of the Indian dog, have been secured. Numerous village sites, shell-heaps, rock shelters, and earth embankments have been described, photographed, and located on a map.

Other work described in the report of this institution for 1900 includes the continued exploration by Mr. Marshall H. Saville of the ruins of Mitla, Yucatan, and its vicinity, with successful scientific results and the discovery of many important facts relating to the architecture of the buildings. Several cruciform structures were found, the walls of which were in several instances as elaborately ornamented with mosaic work as those of the great palaces.

In his explorations of ancient tombs in the vicinity of Lake Titicaca, Mr. Adolphe Baudelier found many trephined skulls, together with specimens of pottery and other objects from tombs and village sites. By the large additions thus obtained, the museum's collection, showing different forms of trephining practised by the prehistoric Indians of Peru and Bolivia, is made one of great importance.

In continuance of his explorations of the glacial gravel and other deposits of the Delaware Valley, N. J., in behalf of the American Museum of Natural History and under the patronage of Dr. F. G. Hyde, Mr. Ernest Volk has found a number of specimens of the handiwork of man under such conditions as show that they are of

great antiquity, and that they were contemporaneous with the formation of certain of these deposits. The evidence thus secured during many years of research has made it impossible, according to the report of the museum, "for any one familiar with the facts to doubt that man was living at the time of the deposit of these formations in the valley." Mr. Volk has secured remains of several human skeletons which were found at such great depths and under such conditions as to prove their very considerable antiquity. He also obtained a large number of objects relating to the early Indian occupation of the valley.

A village site on Long Island, discovered by Mr. Harrington and thoroughly examined, yielded specimens of pottery, stone implements, and other objects, and several skeletons.

During a summer excursion in 1900 the curator of the museum, Prof. F. W. Putnam, visited New Mexico in connection with the work in anthropological measurements, etc., of Mr. E. T. P. Hyde, and for the purpose of making a comparative survey of the ruins on the mesas and in the cañons in reference to their contemporaneity and their greater or less antiquity.

Archeological Institute of America.—The annual report of the Archeological Institute of America, published in February, gave the number of members as 900, the largest number in the history of the society, and the year's income as \$8,002. A balance remained in the treasury of \$1,874, the principal part of which was pledged to publishing the results of the Argive excavations. Nineteen institutions had promised support to the American school in Palestine, for the opening of which sufficient means had now been secured; and the director, Prof. Torrey, was at Constantinople waiting for authority to go on with it. The school at Athens had been attended by 15 students. The Charles Eliot Norton fellowship, founded at Harvard University during the year for a scholar in some special subject at the school in Athens, yielded \$600 a year. The school at Rome had been attended by 24 students, 9 of them women. A board of 7 trustees for the care of its finances had been constituted. It had suffered a shrinkage in income, and was straitened.

The Saginaw Valley, Michigan.—Mr. Harlan I. Smith is publishing a paper serially in the *American Anthropologist* embodying a summary of the archeology of the Saginaw valley, Michigan. The evidences, he says, on the extensive village sites and in the burial places, mounds, and other remains along the streams, suggest that the conditions of life in prehistoric times were similar to those which existed when the Indians were first met by the whites. His paper aims primarily to summarize all the available data with reference to every source of information; to publish original manuscript and other material not generally accessible; to include all clues and rumors, however vague, which might lead to further knowledge, and to classify all, in order that the summary may serve as a field library for ready reference in acquiring and recording further data on the subject. The author's personal contribution is based on observations and a collection begun in 1883—which was made in explorations that dealt chiefly with surface evidences.

Ruins near Flagstaff, Arizona.—The results of cursory examinations of the ruins near Flagstaff, Arizona, made in 1890, are published by J. Walter Fewkes in the *American Anthropologist*, July-September, 1900, in a preliminary paper, it being the author's intention to resume and con-

tinue his exploration. The three types of Arizonian ruins, denominated caveate rooms, cliff houses, and pueblos, were all found to be well represented. The caveate rooms are burrowed in lava, generally in the top or sides of cinder-cones. The cliff houses, situated in Walnut Cañon, are small but typical. The pueblos occur in well-preserved ruins near Little Walnut river, and are built of lava, sandstone, and limestone blocks. Only a few of the ancient habitations dotting the country about Flagstaff are noted in the author's preliminary account, but some of these are described in full, with details concerning the arrangement and character of the rooms. The caveate rooms are excavated in lava or volcanic breccia, and may be described as caveate rooms with vertical entrances and caveate rooms with lateral entrances. The former are well illustrated by the "old caves" one mile east of Flagstaff; the latter by the "new caves" twelve miles east of the same place, and by caveate rooms one half mile west of Turkey Tanks. The two types are similar, and the former inhabitants were apparently of about the same culture. The fragments of pottery seen about the entrances to these caves are identical with those found near the pueblo ruins in the neighborhood. It is inferred that the cave inhabitants burrowed in the lava as the most practical means of constructing dwellings which the region afforded. Free walls were found in combination with the caves, but they presented special distinctive characteristics. The builders simply used available building material and took advantage of geological conditions. An arrangement in tiers was observed in some of the "new caves" near Turkey Tanks. In some of these caveate rooms a combination of stone walls and excavated chambers was observed, the lateral separation of the rooms having been made by a plastered wall of small boulders brought from the bottom of the adjacent depression. Walls seem also to have formerly existed in front of the entrances to the caves, but they have for the most part fallen. The pueblo ruins near Black Falls, on the Little Colorado river, are as a rule cubical, with rectangular rooms of one or more stories. Curved walls are rare, although in some instances the shape of the ruin follows the curvature of the mesa on which it stands. The structures were built of sandstone and lava, and the two varieties are found in close proximity. The sites of some of these pueblos are unusually high. It is not uncommon to find an entire mesa top covered with rooms or surmounted by a wall perpendicular to the escarpment. The ground-floor rooms had no external entrances, but where there were several chambers side by side they communicated with each other by doorways. The highest walls of the pueblos are as a rule on the north and east sides—an arrangement which secured a sunny exposure. One-story rooms at the base of the mesa, called basal rooms, are found in most of the ruins. They are now covered by rubbish, but were once protected by the overhanging edge of the mesa. They suggest cliff houses, and may be a survival of them. The walls of a building called the citadel are made of blocks of lava and sandstone, covering the top of a truncated elevation, and are arranged about a central court or plaza. In a cemetery near one of the groups of dwellings the graves were oval, commodious cysts made of slabs of stone set on end and covered with other stones. The upright stones were cemented together with adobe. In one of them were the remains of a woman, lying upon her side. Near the body was a decorated food bowl, within which were a smaller bowl, a decorated vase, and

a smaller food bowl. On the arm was an armlet of pectunculus shell. A remnant of a wooden prayer-stick, painted green, lay on the breast. The square ear pendants were of lignite covered with a turquoise mosaic surrounding a central stone. Four pieces of black and white pottery with geometric ornamentation were in the grave. While the author regards the racial and clan kinship of the former occupants of these pueblos as somewhat problematical, he thinks that they were quite likely kin to the Hopi.

The Cliff-Dwellings.—The Colorado Federation of Women's Clubs and the Colorado Cliff-Dwellers' Association, represented by Mrs. Gilbert McClurg, with the sanction of the Government of the United States, have obtained from Ignacio, chief of the Weeminuche Utes, the lease of the tract containing the Mesa Verde cliff-dwellings, for the purpose of setting it aside as a park. These Mesa Verde cliff-dwellings, which were explored by Mrs. McClurg in 1881-'82, after their first discovery and examination a few years before by United States officers, cover an area 20 miles long and 8 miles wide. The houses are usually about 100 feet below the top crags, and sometimes 1,000 feet from the bottom of the cañon, seemingly stuck on the side of the sand-stone wall and overhung by masses of rock. They are built and joined to the rock with remarkable skill, and are reached only by the most difficult paths. They number 400, some being in ruins and some in excellent preservation. One, called the Cliff Palace, contains 350 rooms.

Mounds in South Dakota.—Excavations in a mound in Brown County, South Dakota, brought to light the bones of 9 persons, of some of which only the skulls were found, while of others bones enough were left to show that the persons were very tall. Beside the bones of one child was the skeleton of a dog. Stone pipes found near the bones were different from others that had been recovered from the Indian mounds of the region. They were not made of the red pipe-stone commonly used, but of a very hard material, and instead of having an opening at the side for the stem, had a hole in the bottom. The earth of which the mound was made appears to have been dug up and brought from a distance of 10 or 12 rods.

Ruins in Salt River Valley, Arizona.—Work has been begun in the exploration of the extensive ruins in the Salt River valley, a few miles east of Phoenix, Arizona. They consist of a large pile, about 25 feet high, 100 feet wide, and 200 feet long, surrounded by lesser mounds extending half a mile northward, and toward the river in a southerly direction. The structures appear to have been of adobe, by the weathering of the more exposed parts of which other parts have been protected against decay. Where thus protected, the walls are from 12 to 18 inches in thickness. Some of the smaller mounds have been dug into and skeletons and various implements have been extracted from them; but the principal mound, where work is now begun, has been protected by the Arizona Antiquarian Society, which has sought to prevent haphazard excavation.

British.—The estimates of the age of Stonehenge vary widely. Mr. E. A. Maskelyne fixes its date at from 900 to 1,000 years B. C., while W. M. Flinders Petrie dates it as from 500 to 900 A. D. The earliest definite mention of it is in the thirteenth century, by Henry of Huntington, who speaks of it under the name of "Stonenges" as the second wonder of England. An account by Hecataeus, of the sixth century B. C., of the ceremonies performed by the Hyperboreans of an

island off the coast of Gaul in a circular temple of Apollo, is thought possibly to refer to it, and if so would be favorable to the earlier date. The results of recent researches also tend to confirm this date. Sir Edmund Antrobus, owner of the estate, has been making some excavations in co-operation with certain archeological associations, with a view to strengthening the positions of the stones. During this work a large number of stone-age implements and some "sarsen" and syenite chippings have been found. The discoveries are interpreted as indicating that the monument dates back to the stone age, and that the stones were partly, if not wholly, dressed on the spot. The tools found consist of hammers and axes, and some of them are remarkably well formed. They are the first stone implements that have been found in the immediate vicinity of Stonehenge, although "sarsen" stone chippings and bronze tools had been found in some of the barrows of the district.

Among the articles shown in the annual exhibition of objects recovered during the past season's excavations at Silchester, special mention is made of a large and well-preserved padlock, and an example of the farrier's tool known in France as a "butoir," and corresponding to the old farrier's "butress." There were also parts of cooking utensils, several bucket handles, many carpenter's tools, some ingeniously fashioned candlesticks, and many well-shaped vessels in variously colored wares; numerous specimens of colored wall plaster, and a section of pavement combining the *opus sectile* with the *opus tessellatum*.

In a summary of the work done during 1900 in the investigation of Roman Britain, published in the *Athenæum* of Jan. 5, 1901, Mr. F. Hamfield speaks of three of the sites examined in 1899—Widspool, Melandra, and Ribchester—as having been left almost untouched, while Richborough, Cardiff, and Gelligaer had taken their place. Explorations of Silchester, Caerwent, and Hadrian's wall had gone forward, and the Scottish Society of Antiquaries had completed Camelton and begun Lyne. At Silchester the neighborhood of the north gate had been examined, and more substantial advance had been made in uncovering the whole of the 100 acres which lie within the ancient walls, the total excavation of the site being the chief point aimed at. Among the more remarkable finds in the ruins were tools (including some monstrous padlocks and a shoe-maker's stand) and a wooden ladder in a well. At Caerwent the work had been continued in the southwestern quarter of the Romano-British town, and two inscribed fragments had been turned up. Very little had been added to our knowledge of Romano-British villas, but several sites had been indicated. The fort at Richborough had yielded a fragment of an inscription and a silver ingot, stamped. Roman work had been discovered and examined at Cardiff and at Gelligaer, 14 miles north, and minor finds were mentioned. The work on Hadrian's wall had yielded interesting results. The camp at Lyne, near Peebles, had been partly excavated, and appeared to have been at some time a definite Roman fort.

French.—At the meeting of the French Sociétés Savantes, held at Nancy in April, M. Bletcher, professor at Nancy, presented the results of his studies of the remains of primitive mills, mortars, and pestles found in the region. They date from before the Romans, or even the iron age. The porphyry of which they are made is not found in the country, and must have been brought

in the ordinary way of commercial exchange from a considerable distance.

Scandinavian.—A book on the Kitchen Middens of the Stone Age in Denmark, published in Copenhagen, contains the contributions of seven scholars who have been making studies of these deposits during the past eight years, investigating the subject from the points of view of botany, geology, zoology, as well as of archeology. In these papers the theory is confirmed that the middens are representative of the stone age in all its periods but the latest. They are all near the water-line, and consist chiefly of oyster shells cast there after eating, with remnants of other articles of food. Remains of the dog are found there as the only domestic animal of the people to whom they appertained. Two of them contained human skeletons, sometimes in rude stone coffins. Great numbers of articles in stone and clay taken from them have been de-

An inscription found during the excavations at the Forum in 1900 seemed to identify the ruins under the Church of Santa Maria Liberatrice as those of Santa Maria Antiqua. When the former church was torn down, the ruins of another were found a little behind it, in such a position that while Santa Maria Liberatrice stood outside the Palatine, the newly excavated church, that of Santa Maria Antiqua, is inside it, with its entrances facing the Forum. "As we go through the grand portal to read the new inscription," says Mr. William J. D. Croke in the Catholic Standard and Times, "we observe Christian and pagan coffins—the latter will have been adapted to Christian burial—bones and skulls, broken earthenware of all kinds, a profusion of marble of varied sorts and colors, broken capitals and painted pillars, all on the ground. Still standing are high and noble walls, decorated all over with Christian paintings; the perfect form of a Chris-



TERRA COTTA VASES FOR HOLDING GRAIN, EXHUMED AT VILLA FASANELLA.

posited in the museum. Remains of cooking places have been found, but none of dwellings. Remains of several extinct animals and birds were among the contents of the middens. The papers contain full information concerning the species of trees that flourished during the period of the middens, based on examination of the charcoal.

Roman.—At Bosco Reale, at the foot of Mount Vesuvius, private excavations are conducted by the Deputy di Prisco, owner of the Villa Fasanella, under his own villa and upon an adjoining property. A Roman villa has been discovered, which is adorned with "beautiful and very interesting" frescoes, in a state of preservation described as "superb," and of a style of picture which has not been found before in a Pompeian house. The drawings are of houses of several stories, and views which, barring defects in perspective, were the work of good artists.

tian basilica, the remains of the sanctuary, the apse entire, the very altar steps, the most sacred symbols in the apse. Had the history of early medieval Christian painting been unknown, it could have been made up by an inspection of this Christian Pompeii." Among the paintings are many of the Virgin, and a Crucifixion is especially spoken of. On a slab of eight sides in the ambo or sacred enclosure are two inscriptions, one of which reads, "*Johannes servus scæ Mariæ*," which is translated, "John, the Servant of our Lady," while the translation given of the other is "The Gift of John, the Servant of the Mother of God." The Greek crosses preceding the inscriptions and their general style are paralleled in the inscriptions of Pope John VIII in the crypt of St. Peter's. The Liber Pontificalis relates that this Pope John (A.D. 705-707) decorated the basilica of the Mother of God with paintings.

Climbing a winding staircase leading from this church toward the south, the explorer reaches, on a lofty eminence, the palace of Caligula, the northernmost projection of the palaces of the Cæsars, which appears to have become a papal palace under Pope John. These discoveries go far to confirm De Rossi's theory of a general dedication of pagan edifices in this region, or a supplanting of them, by Christian structures.

Greecian.—In a critical discussion of certain Greek masterpieces recently discovered, Dr. Charles Waldstein pronounces a bronze Hermes which was found in the sea off Cerigo to be a work of Praxiteles or his school; a wrestler in marble, of the same find, to be strikingly like a Parthenon metope now destroyed, but known through a drawing by Jacques Carrey, in workmanship of the Rhodian or Pergamene schools and Lysippan in type; a bronze statue found near Pompeii which was at first regarded as an original by Polyclitos to belong rather to the archæistic revival of Pasiteles; while he characterizes the charioteer which was excavated at Delphi and the Hermes from Cerigo as "the finest ancient Greek bronzes in existence."

Cretan.—In the continued exploration of the ruins at Cnossus by Mr. Arthur J. Evans during the season of 1900-1901 the palace proved to be far more extensive than he had supposed. In the eastern quarter, three flights of stone stairs, one below the other, had been discovered, leading down to a columnar hall with walls rising about twenty feet. The staircase was flanked above and below by a breastwork showing the sockets of the original wooden columns, so that with this double tier of colonnades the hall (which seems to have been partly hypethral) must have presented somewhat the appearance of an Italian Renaissance palace. Even at Pompeii no such staircases one over the other had yet been brought to light. Among the individual finds were a magnificent draught-board of ivory plated with gold; crystal plaques backed by silver and blue enamel; and the lid of an alabastron finely engraved with the name and divine titles of Khyan, the Hyksos king, whose monuments are rare in Egypt itself. Other objects suggested connection with Arabia and Babylonia. A further store of inscribed tablets was found, as well as additional wall-paintings, besides fragments of human figures in painted stucco relief. The modeling of the limbs and muscles and the minute delineation of the veins in these figures seemed to Mr. Evans more in keeping with the spirit of the Italian Renaissance than with classical antiquity. One male head wore a crown having a succession of fleur-de-lis, with an upright one in the center.

The tradition that Crete had a hundred cities is regarded by Mr. D. G. Hogarth, in view of the discoveries that have recently been made, as proving not altogether vain. Remains of primitive settlements, too considerable to have been mere villages, are coming to light, he says, at far more points of the Cretan coast than bear a name in classical atlases. There are half a dozen such in a part only of the eastern half isle. So far as searched at present, these towns show little or no sign of having continued into the historic period. Their civilization was blotted out with the Mycænæan domination. The succeeding class of remains is found for the most part higher up inland, on difficult heights or in remote gorges. "The coastal plains were secure no longer. An age of seafaring and communication between ancient seats of luxurious life had given way to one of local and jejune development. But why and how we may only guess."

While Cnossus is and must always be the chief center of archeological and artistic interest in Crete, it has suffered so greatly by spoliation that its remains exist in an imperfect and dilapidated state, so the practised eye of the scientific student is necessary to convey an adequate comprehension of their meaning; while there are other ruins in more retired parts of the island which, although originally less sumptuous and elaborate, having escaped the destruction which has fallen upon the ancient capital, give more edification to the ordinary visitor. Such a site is described by Mr. D. C. Hogarth as having been explored by him at Phæstos, on the south side of the island, where the ruin covers a promontory of the rock. The palace is contained in a large rectangle, very plainly to be made out, and although taking the place of an earlier structure, is defined as being of one character and period—"that of the acme of the Mycænæan age in Greece." Seen from a terrace on the northern approach, the ruin is distinguished into three main quarters. On the left, a broad stairway descends to a spacious paved court containing an altar and tiers of stone seats built up against the rock, as if to hold an assembly. The main building flanks this court on the east, and, being raised high above it, is entered by a flight of steps described as "truly majestic," and extending the full width of the pillared hall at their head. The entrance without is on the opposite side, where a second and larger paved court extends to the brink of the precipice. From this court entrance is given to the pillared vestibule and main hall, and also to a double rank of galleries and a maze of small chambers to southward which form the third quarter. The walls and doors of this great court are well preserved, and a comprehensive view of the various blocks is easily obtained, suggesting their uses. "Here were the living and sleeping rooms of men, there of women. Their common hall of assembly occupies half of another side; the store galleries for the produce of the plain fill the other half. In the chambers to the south they bathed, worshiped, and lodged their retainers and their beasts." The structures were made of an excellent limestone, which has retained its sharp and square outlines, while the gypsums of Cnossus have crumbled, so that they give a more convincing general impression; but Phæstos is far inferior in details to Cnossus. "The elaborate friezes, the sculptured frescoes, and the delicate plaster relief of Cnossus were never here. . . . The noble shell was decorated only in the rudest manner." The objects found are of inferior interest; and of the things which give the relics of Cnossus such rare importance, none have been found.

Explorations have been made in the eastern end of the island, in hope of discovering remains of the Eteocretans. A second inscription, in a non-Greek language but Greek script, has been found at Phæstos, containing more words than the former one, broken and imperfect; but nothing has come to light in the primitive script.

Excavations at Gorynia, on the Gulf of Mirabello, under the direction of an American lady, Miss Harriet A. Boyd, of the American School at Athens, have laid bare what Mr. Hogarth speaks of as the most perfect example yet discovered of a small Mycænæan town, uncontaminated with later remains. Two narrow and tortuous paved streets have been laid bare, here and there ascending by flights of steps, on both sides of which houses of stone with party walls of brick are preserved to a considerable height. These two streets converge toward a large building of fine masonry,

on the highest point of the knoll. While almost everything in precious metal has vanished from these buildings, numerous weapons, tools, and vessels of bronze remain in them. Among the many clay vessels are complete specimens of types previously inferred from fragments only; and among the chambers is one the objects and symbols in which indicate that it was a small shrine.

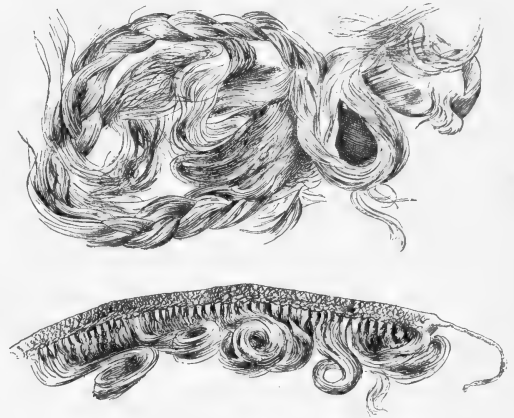
Miss Boyd has given an account before the Archeological Institute of America of her exploration in May, 1900, of the site of Kavousi, on the lower end of the narrow isthmus that connects Sitia with the coast of Crete. The discoveries, made on spots bearing characteristic names, are a chieftain's house of thirteen rooms, with a necropolis of small tholos tombs in the neighborhood; the walls, visible above the ground, of a building called the citadel; a beehive tomb; and a group of three sets of walls representing three periods of construction. The articles found in these ruins consisted mostly of domestic utensils, pottery with designs in the geometrical style, and animal figures in terra cotta. A thin bronze plate was found in the beehive tomb, engraved in a well-executed design of Oriental motive and Grecian style. The field of the design was divided into bands after the Oriental fashion, and filled with sphinxes having back-turned helmeted heads, griffins with outstretched necks, and a recurring combination of a man with one or two lions rampant. Individual expression was given to each figure.

At Zakro, Mr. Hogarth found remains, though not in large quantity, which he characterizes as illustrating all the immense interval between the Neolithic and Hellenic ages. While most of the remains in the plain of Lower Zakro belong to the close of the Mycenaean age, discarded vessels in clay and stone belonging to a previous epoch were found filling a pit in the limestone rock. Vases in a delicate painted fabric of the same type as the "Kamâres" ware of mid-Crete occurred here. The caves about the plain had been used for sepulture in an age verging on the Neolithic. The native objects from all these sources were mixed with elements of outside origin, "parallel to things Cypriote and Egyptian." The houses of the town, with party walls of brick, but true Cyclopean outer walls, were of great size, one containing more than 20 chambers, and yielding more than 70 vases, besides many fragments and objects in silver, bronze, and stone. In one building, which belonged to a large group of connected blocks, were found two inscribed tablets in primitive script, a deposit of bronze implements and vases, and hundreds of impressions of lost signets, lying in a heap as if once contained in a box, and representing 150 separate types—so well preserved that it has been possible to take casts of them for study in England.

The general result of east Cretan exploration thus far is summarized by Mr. Hogarth as seeming likely to establish the fact that the Pan-Aegean civilization which it is agreed to call Mycenaean was foreign in that part of the island; and that the native civilization, existing before and coincident with it, was much ruder, and perhaps of a different character from that of mid-Crete.

Egyptian.—The continued excavations at Abydos among the tombs of the first Egyptian dynasties during the winter of 1900-1901 yielded results of no less interest than those of the previous year; and in March Prof. Petrie could say that "we are now able to trace out the regular development of the civilization during

some four hundred years, from the time when writing was but rarely used, and then only in a rude and pictorial stage, down to the common use of delicately figured hieroglyphics, indistinguishable from those in use for thousands of years later. We have now in our hands the beautifully wrought jewelry and gold work, the minutely engraved ivories, the toilet objects of Menes, the founder of the monarchy, and his successor, fashioned more than sixty-five hundred years ago." Nearly thirty inscriptions and labels of Menes and his predecessors in stone and ivory had been recovered, from which were certainly learned the names of three kings—Narmer, Ka, and a name written with a fish sign. Among the works of Menes were parts of four ebony tablets with figures and inscriptions, one apparently showing a human sacrifice, and a massive strip of gold of unknown use, with the name of Menes (Aha) upon it. The forearm of the queen of Zer, the suc-



FALSE FRINGE AND PLAITED LOCKS,
FROM THE TOMB OF ZER.

cessor of Menes, had been broken off by the first plunderers of the tomb and laid in a hole in the wall; and was found still in its wrappings, with four splendid bracelets intact. One of these bracelets consisted of a series of figures of the royal hawk perched on the tomb, 13 figures in chased gold alternating with 14 carved in turquoise. The second bracelet was of spiral beads of gold and lazuli in three groups. The third bracelet was of four groups of hourglass beads, amethyst between gold, with connections of gold and turquoise. The fourth had a center piece of gold copied from the rosette seed of a plant, with amethyst and turquoise beads and bands of braided gold wire. "This brilliant and exquisitely finished group of jewelry," says Prof. Petrie, "shows what a high level was already attained at the beginning of the first dynasty. It is two thousand years older than the jewelry of Dashur, the oldest yet known, and it has the great advantage of being carefully examined as found, and restructuring in its exact arrangement." Forty inscribed pieces of ivory and stone, and two lions carved in ivory, of King Zer, were found; also the great royal tombstone was recovered in pieces and rejoined. About 60 private tombstones gave the names in use in the royal household, "many formed from the goddess Neith, but not one from Isis." A dozen inscribed ivories of King Den, the fifth of the first dynasty, were found, including the handle of the royal measuring cord. Also an impress of a beautiful royal seal, showing the

king wrestling with a hippopotamus and spearing a crocodile. About 20 private tombstones of this reign have also been recovered, with much elaborately carved slate and bows and arrows. The tomb of Perabsen, of the second dynasty, yielded a large tombstone of the king carved in syenite, and the names of his three predecessors—Hotep-ahau, Ra-Neb, and Neteron, the same as they are given on the small granite statue No. 1, at the Cairo Museum—carved on stone bowls. Perabsen appears, therefore, to have been the fourth king of the dynasty, and his successor was probably Kha-sekhemmi, whose tomb has been mostly cleared. From it were recovered the royal scepter, formed of cylinders of sard held together by a copper rod in the axis, and with gold bands at intervals; of which 28 inches in length remain, while the lower end is lost; also 7 stone vases with gold covers fastened on with twisted gold wire, 2 gold bracelets, 20 copper dishes, dozens of copper models of tools, copper axes, fruit-knives, and a perfect dish of diorite.

The rise and development of Egyptian civilization and art have been more fully treated by Prof. Petrie in lectures on those subjects at the Royal Institution and before the Society of Arts. From considerations based upon the rate of deposition of the mud in the Nile valley, the author concludes that the end of paleolithic man and the beginning of civilization in that region can not have taken place earlier than about 7000 B.C., for previous to that period the valley was a rocky gorge, and only wild beasts and a population of hunters could have existed where there was no possibility of agriculture. Evidence has been found that paleolithic man was in the country down to a period when the Nile was nearly as low as it is now. No attempt is made to estimate how long he might have been there before that. A scale of sequences has been drawn up from a comparison of the contents of tombs and rubbish heaps, especially of the pottery, comprising fifty periods, to which it is possible to refer the objects found. By this means it has



A BRACELET FROM THE ARM OF THE QUEEN OF ZER-TA,
4700 B. C.

been possible to carry the research with tolerable exactness during the period hitherto regarded as mythical. The oldest graves known in Egypt are those of a settled pastoral people, and yield pottery and small quantities of copper. No trace of the potter's wheel appeared in the whole prehistoric period. The first steps in art were seen in white clay paintings on red pottery vases—usually figures of goats, but sometimes of larger animals and human beings. The ivory and bone carvings of the heads of camels were singular and ingenious, and belonged to the earlier period. The carving of slate palettes in animal forms began at its best in almost the earliest graves, and then underwent continued degradation. A bust of a man about half through the prehistoric age shows

the type of these peoples, with the forehead high, the head pointed, and the general character closely like that of the Libyo-Amorites. The second civilization of the prehistoric age, as Prof. Petrie defined it (from 6000 B.C. to 5000 B.C.), was distinguished by high mechanical skill shown in the marvelous working in flint, which was unequaled by any later race in its regularity and perfect control. A like skill was shown in the regular forms of the stone vases, and in the pottery. Copper was increasing in use, and the forms of tools were being evolved. The connection of this second civilization with the East was hinted at by the use of forehead pendants and probably face veils, as with the Arabs, and by the introduction of amulets, unknown before, which are Semitic rather than Libyan. The worship of these people seems to have been that of the serpent, of which several coiled images are known. The games have been preserved in some tombs; among them a game of ninepins; one with four lions and a hare; and games with balls and counters. Certain paintings show that the people used large ships; and the foreign pottery imported shows that they had intercourse with the rest of the Mediterranean. Carved slate palettes are among the most important early monuments, or down to the time of Narmer, who was just before Menes. The animals represented upon them are interpreted as emblems of tribes. In some instances towns are pictured as attacked by these animals, some of which are striking picks into the walls. Another slate shows a long procession of warriors bearing different weapons. A slate, evidently one of the latest of the series, assigned to the time of King Narmer, presents the conventional grouping of king and captive, already established in the same form which lasted down to the Roman dominion. The reverse shows that the united force of Egypt was composed of three very different races—the long-haired, the bearded, and the usual shaven Egyptian of late times. The triumph they celebrate is over a bearded people, who wore bulls' skins and horns on the head. A strong contrast was presented between prehistoric and dynastic art. The former was at its best far inferior to the rough work of the later people, while in mechanical ability the later people showed no marked improvement, and in some respects, as in flint work, they never reached the prehistoric level. The first line of writing is on the tablets of the offerings at the funeral of Mena. During the reigns before his, no continuous inscriptions have been found, and signs are only used sparingly to explain figures and scenes. By his time most of the conventions were established, and under his successor, Zer, the final crystallization of art took place, and no essential change occurred till its final decay, five thousand years later. In the reign of King Zer the facility of design in a definite school became complete; and the seated figures of the king and the outline of the royal hawk differ from all later works only by a severe dignity, which was rapidly lost afterward. The technical ability shown in the manufacture of the jewelry lately discovered has never been exceeded since. The linen of that age, as compared with modern fine cambrie, shows a finer thread and a closer warp. The earliest statuary we have is of this age, and shows a high proficiency and completeness of design which prove that we have yet to recover many earlier stages. These arts suffered decline afterward.

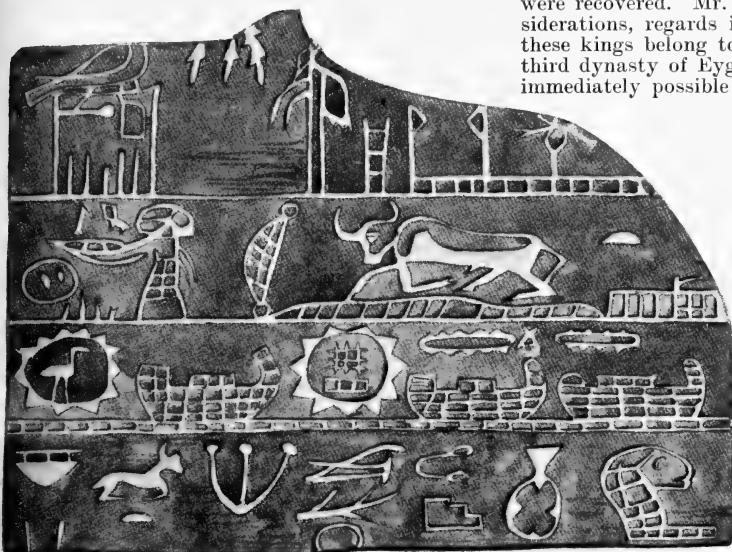
The assignment of the four kings whom Prof. Petrie calls predynastic, or of the "O dynasty," as he designates it, to a period before Menes, has not been accepted without question. M. Foucart

has sought, in a communication to the Académie des Inscriptions, to show on linguistic grounds that one of the number, Narmer, was really that Boethos whom Manetho makes the first king of the second dynasty. The reviewer in the *Athenæum* of Prof. Petrie's book on *The Royal Tombs of the Earliest Dynasties*, referring to some points

the beginning of the pyramid age. North of this, its superstructure rising in steps and similar in design to the pyramid of his predecessor, is the tomb of the king whose name seems to read Hen-khet. This tomb also had been plundered, but the head and remains of the king, with much of the tomb furniture and some scraps of the jewels, were recovered. Mr. Garstang, from several considerations, regards it as probable that both of these kings belong to the hitherto unrepresented third dynasty of Egyptian history; but it is not immediately possible to identify the names with

those on the traditional lists. He is of the opinion likewise that the tombs are near the site of historic This.

Explorations of the pyramids near Sakkarah, where excavations were carried on between 1881 and 1886, have been resumed by Prof. G. Maspero, who will give special attention to the chapels, enclosures, etc., attached to each pyramid. Some successful work has been done at the pyramid of Unas, against great difficulties from the deep accumulation of rubbish, in the course of which a grave of a person named Samnofu, intact, and several mummy pits of the



THE OLDEST CONTINUOUS LINE OF HIEROGLYPHS EXTANT.

of doubt in the identifications by Prof. Petrie, observes that "it would seem to be wiser to treat the identification of Aha with Menes as not yet proved."

Mr. John Garstang, of the Egyptian Research Account, reported, May 5, the completion of the excavation of the tombs of Neter-Kha, known as the builder of the step pyramid at Sakkarah, and of his successor, whose name is read Hen-khet. The tombs are situated westward from Girga, and the superstructure of the larger tomb is visible in cool weather from the farther side of the Nile. The original approach to the chamber of this tomb is from the top by a stairway which descends, making several turns, to the depth of about 60 feet below the level of the desert. This passage was stopped, after the burial of the king, by single large stones placed at intervals in it. Plunderers had, however, found their way into it, and carried off the treasure, but left many relics of archeological value; and it was by following their tracks that the explorers gained an entrance. The entrances to the 18 chambers were strewed, so that it was very difficult to pass at once from one to another, with hundreds of vessels of alabaster, bowls of diorite, breccia, and other stones, and jars that had been filled with wine and offerings. The impressed sealings recorded several chief officers and stewards of the king, with one of Perabsen, whom he apparently succeeded; and two of the royal mother, Rap-n-Maat. The official title of the king is recorded as "King of Upper and Lower Egypt, Uniter of the two Egypts, Neter-Khe, the Golden (a w b)." The Horus name is the same. To the east of the tomb were several mastabas of this king's chief servants. The plans of these tombs, though they were coeval, provide in themselves a remarkable sequence. They link the type prevailing in the earliest times with this large tomb, foreshadowing the taste for massive grandeur that prevailed at

Saitic period, have been found. In the mummy pit of Psammetik the walls of the funereal chamber are covered with texts from the ancient collection of magic formulas.

The results of three seasons of surveys and making drawings and tracings and copying inscriptions in one of the tombs on the west side of the Nile, opposite Thebes, have been published by Mr. Percy E. Newberry in the *Life of Rekhma Ra*, Vizier of Upper Egypt, offering an important record of bureaucratic life in the time of the eighteenth dynasty. The vizier (Zat) was descended from a family of officials, his uncle, grandfather, and great-grandfather having held the same positions, and other relatives other offices of state. He is supposed to have been born during the reign of Hatasu, and was brought up "a priest of the goddess Maat, the goddess of law." Besides occupying the post of vizier, he was "governor of Thebes," "chief justice," "steward of Amen," and "regulator of all the art works of Amen" in Karnak. The scene depicting his life as vizier shows the court as a long building attached to the temple of Amen, open at one end and supported by two rows of columns, with a dais at the upper end, on which the vizier sat. An inscription describes him as "the vizier governor of Thebes and the southern towns in the divan of the vizier." He is depicted as wearing his judicial robes, and having in front of him the *ken* mat, a sign of the highest judicial office. The "superintendent of the court" stands on his right, and the "guardian of those coming in" on his left; a collection of forty rolls of the law, "the books of knowledge," containing former decided cases, is before him; the jury of "the members of the council of the southern tens and the scribes and reporters stand in two rows on each side of him; and the porters and "two swift messengers" are at the doors. Another picture represents the vizier on his way to the court in the morning,

with many poor people crowding round him, and the accompanying inscription reads: "The going forth through the land in the early morning to grant the daily favors and listen to the words of the people, without showing any distinction between small and great." The "keeper of the seal" was associated with the vizier in his state duties, and the two together visited the palace every day to pay their respects to the king. A list is given of the Government officers who had to report to the vizier. He seems to have had supervision of the inland revenue and home office, of the boards of trade and agriculture, the "regulation of canals" and of "the duties of steersmen and pilots on the Nile," of the workmen attached to the Temple of Karnak, of the duties of the minister of the fine arts, etc. In two large scenes depicting the collection and inspection of taxes, the commodities subject to duty are enumerated and accurately pictured, a very noticeable feature of the representation being that of the beads or ring money of gold paid as tithes. Each portion of the taxes is brought in by a deputation consisting of the mayor, the registrar, the surveyor, and the scribe. Among the articles are "500 pigeons," baskets, and coils of rope. As minister of the fine arts, the vizier had the duty "of inspecting all the handicrafts and teaching each man his duty according to the manner of all occupations." Every detail of the work of gold and silver smiths, cabinet-makers, sculptors, and bronze workers is depicted.

The tomb of Tehuti, who made the decorations of the great temples of Karnak and of Deir-el-Bahari, is near that of Rekh-ma-Ra, and was explored by the Marquis of Northampton in 1898. This artist was skilled in massive and in delicate work, having both executed the great bronze and electrum gates of Karnak, and fabricated the collars and necklaces of the favorites of the king.

The Egypt Exploration Fund has published the first part of the description of the tomb of Ptah-hetep, and his son Aukh-hetep, of the fifth dynasty, at Sakkara, with careful plans and drawings by Mr. N. de G. Davies. The tomb is a very large one, with many chambers and corridors, and has the walls decorated with hunting scenes and representations of the pastoral life of the nobles of the period, and of sports and pastimes. The reproductions of decorative work in these paintings are mentioned as being especially interesting, and as bearing evidence that Egyptian decorative art derived its inspiration from textile work.

A book on Greek Ostraka from Egypt and Nubia, published by Prof. U. Welchen, contains 1,624 inscriptions from clay tablets in Greek, Arabic, etc., brought from Egypt and preserved in the Berlin, Paris, London, Rome, and Turin collections and in various private libraries. These inscriptions shed light on life in Egypt from B. C. 300 to A. D. 700. The Jews appear from them to have been in charge of most of the tax collections in Egypt. The name Jairus, mentioned in the New Testament, occurs in them. Heathen priests are called elders.

A large number of papyri, including the oldest known texts of Plato, Aristotle, Herodotus, Demosthenes, Xenophon, Euclid, the Iliad, the Odyssey, etc., have been presented recently to American universities and museums by the Egypt Exploration Fund. Among these are the oldest extant text of St. Matthew, which becomes the property of the University of Pennsylvania, and a text of St. Paul that of Harvard University. The papyri treat of legal, medical, social, and business matters of almost every kind. A number of

antiquities, largely from Abydos, were also distributed.

Among the papyri from the Fayum identified by the explorers and translators of the Græco-Roman branch of the Egypt Exploration Fund is a copy of the romance *The Loves of Chæreas and Callirhoe*, by Chariton. It was found, together with documents dated in the reigns of Commodus and Caracalla, and the handwriting corresponds with that of this period, not later than the second century, A. D. It is inferred that a book to be known then at a village in the Fayum must have been written at a much earlier period; while in the uncertainty respecting Chariton's date, the dictionaries have assumed that he flourished not earlier than the fifth century. The text, according to the Rev. W. C. Winslow, American representative of the Egypt Exploration Fund, tends to confirm the authority of the Florentine text of this work of the thirteenth century; "and the general result may be said to prove that the copies of the classics made at Byzantium—perhaps a thousand years after Greek literature had a place in Western Europe—were of a remarkably uncorrupted text."

The work of the Ernst Sieglin Expedition at Alexandria has been carried on by the architects August Thiersch and Ernst Flechter, and the archeologists, Alfred Schiff and Herrmann Thiersch. The Herren Thiersch, father and son, have been mainly occupied with the remains of the Serapæum, the foundations of which were partially discovered and laid bare by Giuseppe Botti. Results have been obtained which will considerably modify earlier speculations. An unexpected find was the discovery of two magnificent subterranean burial places (in the quarters Sabbari and Kom-es-Schugafa) richly adorned with wall-paintings. Some sculptured reliefs discovered in the same place are said to give "a new impression of Alexandrian art."

Palestine.—A room in the Government school, just inside of Herod's gate at Jerusalem, has been set aside as a museum for the objects found in the excavations of the Palestine Exploration Fund, and the articles have been numbered and catalogued. In one of the cases are 101 examples of pre-Israelite pottery, and in another 184 specimens of Seleucidæan ware. Besides these are pottery figurines, gems, tablets, scarabs, and objects of bronze, iron, bone, stone, and glass, and a collection of coins. Although small, this museum is unique in that it contains the only full collection from which the history of Palestinian pottery may be studied from pre-Israelite to Roman times.

A mosaic, described as a work of art of high order, found in March in the grounds of a Jewish colony northward of the city of Jerusalem, near the Damascus Gate, is of heathen design. It bears figures of Orpheus playing the harp, with Pan and a centaur beneath him. A frame or border around this group is composed of ornamentally entwined branches enclosing other figures. Beneath this are two women around whom is an inscription in Greek letters—"Theodosia" and "Georgia." This is the second mosaic that has been found within a few years in this neighborhood; but others, among which is the map of Palestine, from Madeba, have been found on the other side of the Jordan.

When, sixteen years ago, the Didache was subjected to critical analysis, scholars surmised that the first part of it had been a separate work. They recognized in it the treatise to which patristic writers often alluded as *The Two Ways*. This work has recently been discovered, and has

been edited by Dr. Schleiermacher, and published under the title *Doctrina XII Apostolorum una cum antiqua Versione Latina prius partis de Duabus Viis*. The manuscript is of the eleventh century, and suggests that the original may have been of pre-Christian-Jewish origin, adapted to the uses of the composer of the *Didache*.

At Tel Sandahannah, the explorations of the Palestine Exploration Fund, under Dr. F. J. Bliss, have resulted in the discovery of figures and tablets which are regarded by the Orientalists who have examined them as connected with the practice of witchcraft. Sixteen nude figurines in lead of men and women having their hands and feet bound in complicated fetters and writhing in agony, supposed by Dr. Bliss to represent captives, are pronounced by M. Clermont-Ganneau to stand for persons against whom incantations were directed. About 50 small stone tablets in the Greek inscriptions are decided by Prof. Sayce to be magical charms and incantations. In their explanations the authors refer to the practice in the old magic of making a figure in wax (or in the other soft and readily melting substance, lead) of the person to be bewitched, and melting it before the fire or piercing it with needles or pins.

Babylonian and Assyrian.—Three important discoveries in Babylon are announced in a pamphlet by Friedrich Delitzsch, Feb. 1, 1901: 1. The location of the Marduk temple, Esagila, described by Herodotus and referred to frequently in Babylonian inscriptions, under the mound known as Amram. 2. The great procession street which was rebuilt by Nebuchadnezzar and named Aiburshabu, of the pavement of which slabs of limestone have been found bearing the inscription, "Nebuchadnezzar, King of Babylon, son of Nabopolassar, am I. The street of Babylon I have paved gloriously for the procession of the god Marduk, the great god, with tablets of limestone. O Lord Marduk, grant everlasting life!" The determination of the position of this street has also led to the determination of the position of the wall, Imgur-Bel, the great inner wall of Babylon. The third discovery is that of the temple E-neach, the sanctuary of the goddess Ninmach, the giver of fertility. It is in the ruin mound of Kasr, about the center of the Babylonian complex of ruin mounds.

The inscription on an obelisk which was erected as a boundary stone or "landmark," discovered at Susa, is cited by Mr. W. St. Chad Boscawen as illustrating a highly civilized state of society existing in Chaldea in an extremely remote antiquity. The monument bears engraved upon it the title deeds of estates purchased by a certain Manishtusa or Manishturba, king of the city of Kish, one of the oldest city kingdoms of Chaldea; which show that a system was already established of relations between the king and his tenants, with fixed stipulations as to payments, provision of food, etc. The date of the deeds is estimated to be about 4500 B. C.

Below the remains of the structures of Sargon and Naramsin found by Prof. H. V. Hilprecht at Nippur and already mentioned in the *Annual Cyclopædia*, the excavators went through 31 feet of *débris*, representing a period of which we have as yet no knowledge. Antiquities were found belonging to that period which indicated that the arts had then already reached a high development. Writing was in an advanced stage; and the workmanship displayed in the carving of some of the vases could well bear comparison with the best efforts of later art. The relics found here indicate, as a whole, to use the words of Prof. Hilprecht, "that behind Sargon I and Naramsin

there lies a long and uninterrupted chain of development covering thousands of years; and that these two powerful rulers of the fourth millennium before Christ, far from leading us back to the dawn of civilization, are at the best but two prominent figures from a middle chapter of the history of Babylonia." Notices have been found of about twelve kings who reigned before Sargon.

An account of the educational system of the ancient Babylonians as revealed by certain tablets which are apparently of the nature of students' exercise books, has been contributed to the *Society of Biblical Archeology* by Mr. T. G. Pinches. In the system of study thus indicated as followed by young students were found the single wedge corresponding to the "pothooks and hangers" of modern days, lists of characters, extracts from bilingual lists and syllabaries, practice in writing names of men and countries, together with titles of officials, phrases used in trade documents, and extracts from legends, which seem to have furnished, as it were, the finish to a certain course of study. Other scribes wrote out, as practice, extracts from various bilingual lists—wooden objects, lists of plants, vessels, etc., preceded by an extract from an incantation and perhaps from a list of temples. Mr. Pinches had succeeded in identifying one of the tablets written out by an ancient Babylonian student and found that it was part of an incantation invoking the aid of the god Ea to restore to health a person suffering from some disorder. The tablet contained some curious and interesting expressions, particularly in that part of it called the Prayer of Life. The afflicted man was to be relieved by the food which was placed near his head, so that he might live and his foot might "stand on the ground of life." He was the son of his god, an expression connected by the late George Bertin with the "sons of God" of Gen. vi, 2, which he regarded as explaining the biblical passage referred to. This man, therefore, being one of the faithful, the eye which looked at him ill was seemingly to be cast down. (This part of the tablet is defective.)

From the enormous number of baked-clay tablets and fragments from the ruins of Nineveh and Babylon preserved in the British Museum, a selection is to be made, under the authority of the trustees of that institution, of all the texts relating to legends concerning the creation of the world and the mythical origins and deeds of some of the earliest and most famous kings of Mesopotamia, with a view to their publication in a collected edition. Since George Smith in 1876 called attention to resemblances between parts of these legends and some passages in the early chapters of Genesis, several renderings of them have appeared in English, French, and German, and much attention has been given to the study of them in America. The text used by Mr. Smith in his work, after his death lost sight of for twenty-five years, and only recently identified, will be published for the first time in this collection.

Mashonaland.—Dr. Carl Peters has been for the last two years, or since 1899, when previous accounts of his work were published, exploring the country between Zambesi and Sabi (Zambesia or Mashonaland), and reports that he has been able to ascertain that all the ancient ruins about the eastern border of Mashonaland apparently belong to the same class of civilization. He has everywhere found the same type of ruins, with the cyclopean wall as the typical form of house-building; while in some parts whole cities of these buildings are easily found. Artificial water furrows are still existent in parts of the region. Not only are all old workings on gold mines generally

found in the neighborhood of these ruins, but Dr. Peters discovered during the summer of 1901 a series of ancient copper mines along the eastern bank of the upper Sabi. From all the evidence discovered in the explorations, from the occurrence of symbols of phallus worship from the Zambesi down to the Sabi, and from other results, the author is led to believe that the ancient conquerors belonged to a Semitic race; and that the repeated appearance of the names of Mas-sapa, Unsapa, Rusapi, Sabi, etc., makes it highly probable that they were Sabeans, a race very nearly related to the Phenicians of the Mediterranean. Thus the views of Theodore Bent and other explorers before Dr. Peters are confirmed. Two stones with old inscriptions, not yet deciphered, have been found in Manicaland.

Arabian.—In a discussion of the age of the south Arabian Minean kingdom, Otto Weber agrees in general with Glaser and Hommel as to the antiquity of the inscriptions, and endeavors to prove that the kingdom antedated that of the Sabeans, reaching its highest point of prosperity about 1000 B.C. At this time the Mineans had the commerce of southern Arabia in their hands, while by means of a colony in the northern part of Arabia, Musri, frequently confounded in the Bible with Egypt, they were in close commercial intercourse with Mesopotamia. The author believes that the Minean inscriptions carry us back at least as far as 1200 B.C. It follows, of course, that the Minean alphabet was developed much earlier. The Minean kingdom lasted till about 600 B.C., when it was overthrown by the Sabeans. The same subject is discussed by Lidzbarski (*Ephemeris für Semitische Epigraphik*) from the epigraphic point of view. This author, in opposition to Hommel, who supposed the Minean script to be the parent of the Phenician, reaches the conclusion that the south Arabian script was derived directly from the north Semitic or Phenician, and that the oldest specimens of it can not antedate 800 B.C. Discussing the forms of the letters of the Siloam inscription at Jerusalem, Lidzbarski concludes, on epigraphical grounds, that it is very ancient, as was at first supposed, and not of the Herodian period, as has recently been claimed.

Chinese Turkestan.—Discoveries of manuscripts and other ancient inscribed documents made by Dr. M. A. Stein, of the Indian Educational Service, in Chinese Turkestan, promise to be of considerable importance for the history of that part of central Asia. Both the languages and the alphabets of the documents are, for the most part, Indian in character, but examples of Chinese are not wanting, as well as of some non-Aryan language which has not yet been identified. The manuscripts found at Dandin-Ulig, Sven Hedin's Ancient City of Taklamakan, were chiefly written in the alphabet known as Central Asian Brahmi, and seem to represent a period extending from about the fifth to the eighth century of the Christian era. Excavations made farther to the east of the desert, in the district once watered by the river Nya, which now loses itself in the sands, have brought to light, among other interesting objects, hundreds of wooden tablets inscribed with Kharoshti characters and often dated in years of the reigning sovereign. Both the language and the alphabet of these tablets are those of the Indo-Scythian princes of the first century A.D.; and it seems probable that the ancient civilization of the district was overwhelmed by the sand at that period. Only a general account of Dr. Stein's work has yet been received.

ARGENTINE REPUBLIC, a federal republic in South America. The legislative power is vested in the national Congress, consisting of a Senate of 30 members, 2 from each province and from the federal district, and a House of Deputies containing 133 members elected for four years by the people directly. The President is elected for six years by electoral colleges having twice the number of members in each province that there are of Senators and Deputies combined. The President is Julio A. Roca, elected in 1898. The Vice-President, whose function is to preside over the Senate, is Norberto Quirno Costa. The Cabinet at the beginning of 1901 contained the following members: Secretary of the Interior, Dr. Felipe Yofre; Secretary of Foreign and Ecclesiastical Affairs, Dr. Amancio Alcorta; Secretary of Finance, Dr. Osvaldo Magnasco; Secretary of War, Col. Pablo Ricchieri; Secretary of the Navy, Commodore Martin Rivadavia; Secretary of Agriculture, Dr. Martin Garcia Merou; Secretary of Public Works, Dr. Emilio Civit.

Area and Population.—The republic is divided into 14 provinces and 9 territories having a total area of 1,319,247 square miles, and a population in 1895 of 4,094,911, estimated to have increased in 1899 to 4,569,000. Buenos Ayres, the capital, had 806,613 inhabitants in 1900. The number of immigrants in 1899 was 111,083, including 53,295 Italians, 19,732 Spaniards, 2,449 French, 1,686 Russians, 950 Austrians, 732 Germans, 477 English, and 344 Swiss; emigration, 62,241. The foreign residents in 1895 numbered 886,895, of whom 492,636 were Italians, 198,685 Spaniards, 94,098 French, 21,788 British, 17,143 Germans, 14,789 Swiss, 12,803 Austro-Hungarians, 2,269 Portuguese, and 32,184 of other nationalities. There were 105,000 immigrants in 1900.

Finances.—The revenue in 1899 was \$45,676,189 in gold and \$61,419,990 in paper, and the expenditure was \$30,860,817 in gold and \$103,887,458 in paper. The revenue in 1900 was estimated at \$45,981,735 in gold and \$67,122,000 in paper, and expenditure at \$32,946,813 in gold and \$95,447,513 in paper. The budget estimate of revenue for 1901 was \$37,991,000 in gold and \$62,300,000 in paper. Of the gold revenue \$28,000,000 come from import duties, \$2,800,000 from export duties, \$2,645,000 from port and navigation dues, \$460,000 from consular fees and fines, and \$4,086,000 from debt service. Of the revenue collected in paper \$15,000,000 come from the spirit duty, \$11,300,000 from the tobacco duty, \$8,500,000 from duties on wine, sugar, and matches, \$1,600,000 from duties on beer and other articles, \$5,300,000 from sanitary works, \$1,800,000 from the land tax, \$8,400,000 from stamps and licenses, \$4,900,000 from posts and telegraphs, \$540,000 from land sales and leases, \$3,570,000 from railroads, and \$1,390,000 from other sources. The expenditures for 1901 were estimated at \$25,981,543 in gold, of which \$283,941 were for foreign affairs, \$24,487,214 for debt, \$10,388 for the navy, and \$1,200,000 for extraordinary and unforeseen expenses; and at \$88,399,249 in paper, of which \$16,938,096 were for the Interior Department and Congress, \$1,257,840 for foreign and ecclesiastical affairs, \$7,826,636 for financial administration, \$11,977,250 for debt, \$11,685,938 for justice and education, \$13,223,370 for the army, \$9,529,764 for the navy, \$1,438,220 for agriculture, \$6,599,765 for public works, \$3,458,370 for pensions, and \$4,464,000 for extraordinary expenses.

The debt on June 30, 1900, amounted to £87,575,508, including £6,345,000 of bonds held by the Government. Of the total £45,738,708 were national loans, £31,891,657 provincial and other

loans assumed by the Central Government, and £9,945,143 cedulas. All the provincial debts have been exchanged for 4½-per-cent. national bonds.

The provincial and municipal budgets added to the national budget make a total expenditure estimated in 1897 at \$193,846,534.

The Army and Navy.—The regular army is recruited by voluntary enlistment. If the recruits are not sufficient the law of Nov. 23, 1895, gives power to the Government to draw men by lot, who are obliged to serve four years unless they furnish substitutes. Another class is composed of conscripts who are drawn for one year and trained for sixty days or longer, according to the needs of the service. Besides these all male citizens between the ages of eighteen and forty-five belong to the National Guard, divided into the active, reserve, and territorial sections, and numbering about 472,000 men altogether. The active army in time of peace consists of 12 regiments of infantry, 1 battalion of mountain troops, 11 regiments of cavalry, 4 regiments of field artillery, 2 regiments of mountain artillery, 1 regiment of engineers, 1 brigade of pontonniers, 1 brigade of sappers and miners, 1 brigade of railroad troops, and 1 brigade of telegraphists. The infantry is armed with Mauser rifles of 7.65 caliber, with 5 cartridges in the magazine; the cavalry, with carbines of the same system; the artillery, with 7.5 Krupp rapid-firing guns. The peace strength in 1900 was 1,340 officers and 7,279 men.

The fleet in 1900 consisted of an armored coast-guard, Almirante Brown, of 4,200 tons; 4 armored cruisers, built between 1896 and 1899—General San Martin, Pueyrredon, Belgrano, and Garibaldi, of 6,000 to 7,000 tons; 4 armored gunboats of various dates; 4 small protected cruisers; 7 unarmored first-class gunboats; 2 avisos; 2 school-ships; 6 destroyers constructed in 1896; and 12 first-class and 15 second-class torpedo-boats.

Commerce and Production.—The value of imports in 1899 was \$116,851,000. The principal articles imported were cotton cloths of the value of \$18,319,000; iron manufactures, \$18,077,000; woollens, \$8,252,000; bagging and sail-cloth, \$6,682,000; coal, \$6,536,000; wood, \$6,008,000; wine, \$5,732,000; yerba-maté, \$3,863,000; chemicals and drugs, \$3,343,000; paper, \$1,919,000. The total value of exports was \$184,918,000. The principal articles were wool of the value of \$72,284,000; cereals, \$59,919,000; hides, \$25,629,000; animals, \$9,028,000; meat and meat products, \$5,904,000; tallow, \$2,206,000. The commerce was distributed among different countries as follows:

COUNTRIES.	Imports.	Exports.
Great Britain.....	\$43,671,000	\$21,722,000
France.....	10,908,000	41,447,000
Germany.....	12,980,000	29,434,000
Belgium.....	9,710,000	24,438,000
United States.....	15,467,000	6,668,000
Italy.....	13,780,000	4,927,000
Brazil.....	4,806,000	7,042,000
Spain.....	3,198,000	2,785,000
Uruguay.....	507,000	3,481,000
Paraguay.....	1,372,000	178,000
Chile.....	142,000	360,000
Bolivia.....	58,000	332,000
Other countries.....	450,000	41,784,000
Total.....	\$116,851,000	\$184,918,000

The exports of live cattle in 1899 were 312,150 head; of live sheep, 543,458; of frozen beef, 9,079 tons; of frozen mutton, 56,827 tons; of jerked beef, 19,164 tons; of wool, 237,111 tons; of butter, 2,594,891 pounds; of wheat, 1,713,429 tons; of corn, 1,116,276 tons; of linseed, 217,713 tons; of

hay, 105,598 tons. In 1900 the exports of cattle declined to 150,550, sheep to 198,102; exports of frozen beef were 24,590 tons, of jerked beef 16,449 tons, and of frozen mutton 56,412 tons. The wool exports fell off to 101,113 tons. The exports of butter were 2,322,662 pounds. The shipments of wheat were 1,929,676 tons; of corn, 223,357 tons; of linseed, 223,257 tons; of hay, 102,836 tons. The decline in the exports of live cattle was due to the fact that the ports of the United Kingdom were closed to animals from the Argentine Republic during the last eight months of the year on account of the foot-and-mouth disease. In the summer of 1901 the Argentine Government announced that the disease no longer existed in any part of the republic. Imports of sheep into Great Britain were interdicted for the same cause, but the sheep-growing industry was already declining rapidly, as is indicated by the decrease in the wool exports. The exportation of jerked beef to Spanish-American countries has dwindled with the rise of the trade in frozen beef. The butter trade with Great Britain, in spite of the slight decrease in the exports, is likely to expand, because the Australian butter with which the Argentine product competes must travel twice the distance. The exports of wheat and corn from the Argentine Republic are so uncertain and variable that they exercise a disturbing influence on the world's markets. The exports of wheat in 1898 were 645,161 tons, and in 1897 only 101,845 tons. The corn exports in 1898 were 717,105 tons. The total value of imports in 1900 was \$113,485,069, and of exports \$154,600,412. Of the imports in this year 34 per cent. came from Great Britain, 15 per cent. from Germany, 13 per cent. from Italy, 12 per cent. from the United States, 9.5 per cent. from France, and 16.5 per cent. from other countries. Of the exports 15.5 per cent. went to Great Britain, 13 per cent. to Germany, 12 per cent. to France, 11.5 per cent. to Belgium, and 48 per cent. to other countries.

Navigation.—The number of vessels entered at Argentine ports during 1899 was 10,148, of 6,939,567 tons, of which 3,319, of 646,518 tons, were sailing vessels, and 6,829, of 6,293,049 tons, were steamers.

Railroads, Posts, Telegraphs.—The length of railroads in operation in 1900 was 10,595 miles. The capital expenditure was \$526,616,661 in gold. The cost of the national lines was \$56,331,063; of guaranteed lines, \$113,311,995; of provincial lines, \$83,859,062; of private lines, \$257,141,178. The gross receipts in 1898 were \$41,394,169 in gold; expenses, \$19,117,118. The number of passengers carried in 1900 was 17,813,712; tons of freight, 12,725,657.

The post-office in 1898 carried 181,821,945 pieces of mail-matter in the internal and 34,630,224 in the international service; receipts were 7,318,989 francs; expenses, including telegraphs, 12,141,810 francs.

The telegraphs in 1900 had a length of 27,584 miles, with 58,656 miles of wire. The Government lines were 12,174 miles in length; provincial lines, 3,530 miles; railroad telegraphs, 10,190 miles; private lines, 1,690 miles; messages in 1897, 5,296,184.

Political Affairs.—The political situation in 1901 was dominated by the financial difficulties that have disturbed and partially checked the prosperous development of this productive country for many years. The commercial conditions were easier than they had been for three or four years, and the export trade was increasing when the Government brought forward a plan for the unification of the foreign debt that excited intense

the Argentine Cabinet. A change in the Cabinet took place on March 21, when Capt. Onofre Betze was appointed Minister of Marine and Ezequiel Ramos Mejia Minister of Agriculture. When Congress assembled on May 3 the President stated in his message that the accounts for the preceding year practically balanced, the revenue having been \$65,500,000 in gold and the expenditure only \$200,000 in excess. The conversion fund amounted to \$8,500,000, and would reach \$15,000,000 by the end of the year. The unification project was announced, having for its chief object a reduction of the service of the floating debt. The resulting improvement in Government finances was expected to lead to more immigration and colonization. The bill was presented to Congress on June 11. It authorized the issue of gold consols up to the amount of \$435,000,000, bearing 4 per cent. interest and redeemable in fifty years, the annual rate of amortization being one-half of 1 per cent. These were intended for the conversion of all or part of the existing debts whenever such conversion would benefit the Government. The new loan would be secured on the customs revenue, the Department of Customs having to deposit daily eight-tenths of 1 per cent. of its receipts for every \$5,000,000 of bonds issued. The Senate gave its approval to the plan. In the Finance Commission of the House of Representatives it obtained a majority of a single vote. When the debate began the Opposition press and the hostile politicians stirred up wide-spread alarm. Students held excited meetings and smashed the windows of the Government newspaper organs. On July 3 they stoned the house of the President and assailed ex-President Pellegrini. Shots were exchanged with the police, who were unable to cope with the disturbance. Both houses of Congress having given consent, a state of siege was proclaimed on July 4 for six months. On July 5 the President sent a message to Congress withdrawing the unification bill. The Minister of Finance resigned, and Dr. Marco Avellaneda was appointed to the office on June 10. The popular excitement having subsided when its cause was removed, at the end of July the state of siege was abolished. Further Cabinet changes were the appointment of Señor Seru as Minister of Public Instruction and Justice on July 11, and of Dr. W. Escalante as Minister of Agriculture on July 17. The new Minister of Finance stated that, although the pressure of the external and internal floating debt made the condition of the treasury difficult, the revenue collected greatly exceeded the estimates, and the budget would close with a surplus. The Government was unwilling to repeal the conversion law, and would increase the conversion fund, which would not be diverted to any other use unless Chile compelled the Argentine Republic to purchase more war vessels in order to preserve its naval superiority, the fund being available for war purposes. The Patagonian boundary dispute between the Argentine Republic and Chile had been referred to arbitration. Pending the decision it was proposed by the Argentine Government that both nations should cease augmenting their war material. Chile agreed to this, but after the election of a new President in Chile the victorious party proposed to acquire a new battle-ship and two cruisers. The Argentine Government was determined in that case to make a like addition to its own navy, but after some correspondence the agreement for the maintenance of the naval *status quo* was renewed. A bill for emission of more paper money failed.

ARIZONA. (See under UNITED STATES.)

ARKANSAS. (See under UNITED STATES.)

ASTRONOMICAL PROGRESS IN 1900-1901. The advancement of astronomy in these two years has been progressive and satisfactory in all its branches. More especially is this true in its stellar, spectroscopic, and photographic departments. They furnish a record of progress and discovery that has not been equaled in a decade.

Eros.—The problem of the Sun's distance, which has baffled astronomers for two thousand years, has lately come close upon a solution. The most surprising thing about it is that it has been accomplished by a process never before dreamed of. The Earth's distance from the Sun being the base line by which the distances, magnitudes, velocities, etc., of all celestial objects are measured (except those of the Moon), it follows that its distance should be determined with mathematical exactness. Heretofore the only process known to ascertain the Sun's distance with any prospect of exactness was by the transits of Venus across the Sun's face. By her transit of June 3, 1769, the Sun's distance was computed to be 95,000,000 miles. By her transits in 1874 and 1882 the distance was reduced to 93,000,000, and by the new process to 92,850,000. This reduction of the Sun's distance has reduced the assumed distances and magnitudes of all the heavenly bodies except the Moon. These transits, however, occur at irregular periods, and therefore are not often available. They occur as follow: Once in eight years, then in one hundred and five and a half, then again in eight, then in one hundred and twenty-one and a half, then in eight, and one hundred and five and a half, and so on forever. The next will take place June 8, 2004, after an interval of one hundred and twenty-one and a half years. They always happen in December and June; the last was on Dec. 6, 1882.

On Aug. 13, 1898, Witt, of Berlin, discovered an asteroid, or planetoid, or minor planet (as they are variously called), revolving round the Sun, as do all the 465 now known that are between Mars and Jupiter. This one, however, which received the name Eros, revolves between the Earth and Mars, and can approach nearer the Earth than any heavenly body except the Moon. When it is in perihelion while the Earth is in aphelion, and rising when the Sun is setting, of course it will be on the meridian at midnight, and can approach the Earth within 35,000,000 miles. These favorable conditions are not often simultaneously fulfilled. They would have been, however, had the discovery been made four years earlier. The next will take place in 1930. But there was quite a favorable opposition in December, 1900; so near, in fact, as to allow the determination of its parallax. The nearer a planet approaches the Earth, the greater will be its parallax, and if this is exactly ascertained, Kepler's third law gives the distance of the Earth from the Sun, and from the other planets also. The distance from the Earth to this little speck of a world (supposed to be but 18 miles in diameter), when nearest, is 0.15 in terms of the Earth's distance from the Sun, while Venus in transit is 0.27, or almost twice as far.

Kepler's third law is: "The squares of the periodic times of the planets' revolution round the Sun are proportional to the cubes of their mean distances from him." In the latter part of December, 1900, the little planet was so near that two observers, one in New York and the other in California, obtained measurable angles, which gave its distance from the Earth's center, and so the great problem was solved without going to remote countries to observe the transits of Venus. As the little planet was as near the Earth as it

will be until 1930, astronomers are waiting with commendable patience for its next nearest approach, when the grand problem will be solved.

The twentieth century was inaugurated by astronomical incidents and an amount of discussion rarely if ever equaled. Allusion is made to the variation in the light of the asteroid Eros, and the sudden outburst of a new first-magnitude star in the constellation Perseus. The variability of many stars and comets is well established; but that a dark planet which shines by reflected sunlight should vary in brilliance is a mystery too deep for solution. More than 465 little planets have been discovered revolving round the Sun between Mars and Jupiter, and Eros is the only one in which variation in light has been certainly detected, except their periodical variation by change in distance from the Earth and the Sun. When the novelty was first announced, it was ascribed to chance, or more probably to error of observation. Three different theories have been advanced to account for it, viz., (1) that the little planet is double, the components revolving round each other parallel to our line of sight, as do many of the double stars that alternately occult each other; (2) that two asteroids may have collided and adhered to each other, forming an object resembling a dumb-bell. If this object rotated in $5^h 16^m$, the light changes could be explained; (3) this supposes that the little planet, only about 18 miles in diameter, has on its surface two bright and two dark spots, at or near its equator, its rotation on its axis presenting to the Earth alternately its bright and dark spots. The first and second theories are the only ones that appear tenable. The most plausible, and the one that explains what is observed, is that periodically it is occulted by something that cuts off a portion of its light, the phenomenon being visible from the Earth only when the rotatory motion of the occulting object is parallel, or nearly so, to our line of sight. This not only explains the cause of the variation, but also its beginning and cessation. If, as Prof. Pickering remarks, "the variation is caused by its rotation, it is possible, from measures of its light, to determine the time of rotation and the direction of its axis in space. The fact that its successive maxima and minima are of unequal intensity, and that the intervals between them are of variable length, would seem to discountenance the first hypothesis—that the two sides are unequally dark. The variability of the light of the planet is shown by the trails on plates taken in 1893 and 1894, and particularly so on those taken in 1896. In February, 1901, the range of variability amounted to two magnitudes, and on May 6 it was inappreciable." Prof. Wendell, of Harvard Observatory, argues that "if the variations were caused by markings on the surface, it could scarcely have sunk to zero so suddenly." In 1903 the asteroid will again be in opposition and situated as when its light mutations were first observed.

Double, Triple, and Binary Stars.—To the naked eye all the stars are single, but when examined with modern telescopes several thousand are found to be double or triple. It is possible for a star to appear double when one component happens to be almost exactly behind the other. If no motion of revolution around each other is detected after years of observation, they are called "optically double stars." But such instances are not common. If a motion of revolution of the pair is detected, they are called "physically double," or "binaries," and of these there are two kinds, telescopic and spectroscopic. Several thousand telescopic binaries have been discovered.

In Vol. I (1900) of the publications of the Yerkes Observatory, at Williams Bay, Wis., is a catalogue of 1,290 double stars discovered and micrometrically measured by the greatest living double-star discoverer, Prof. Sherburne W. Burnham, F. R. A. S., whose work was recognized by the Royal Astronomical Society of England when it awarded him its gold medal in 1894.

In a catalogue recently issued, 2,000 are published, all southern pairs. Prof. Aitkin, of Lick Observatory, Mount Hamilton, Cal., publishes a list of 62 pairs lately discovered with the 12-inch telescope at that observatory, all having been reobserved with the 36-inch, and compared with Burnham's list. The list is a continuation of a previous list of double stars discovered there.

Generally the telescopic binaries are of long periods, but how long never has been ascertained. One of long period is Castor, generally considered to be at least one thousand years. Both components are self-luminous suns like ours. At least 30 telescopic binaries are known to have periods of less than one hundred years. The five shortest are Kappa Pegasi, 11.12 years; Delta Equulei, 11.43 years; Xi Sagittarii, 18.85 years; Rho Argus, 22 years; and 85 Pegasi, 24 years. One of the most interesting of the double stars is Sirius, the dog-star, remarkable as having been pronounced a binary years before it was discovered to be one, by its vibratory motion—a striking instance of the refinements of modern astronomical observations. A very interesting triple star is Gamma Andromeda, a bright star that has a double companion revolving around it; period unknown.

Until recent times there was no way of ascertaining whether there might not be others, too close to be divided by the telescope. The principles involved in the phenomena observed in the resolution of spectroscopic binaries needs some preliminary explanation. Should a spectroscopic be pointed to a star, it gives a spectrum resembling a piece of a rainbow, crossed by many dark lines. If a photograph of the lines be taken, and after a time another, and the lines do not agree exactly, it indicates that they are formed from two stars instead of from one only. It also indicates that the stars are revolving around each other in a plane parallel to the line of sight. This is called a spectroscopic binary. Of course, when one is approaching our solar system, the other will be receding from it. The waves of light from the receding star being longer, its lines are all moved slightly toward the red end of the spectrum, while the lines from the approaching star are displaced a like amount toward the violet, causing them alternately to appear narrow, broad, and double at equal periods of time, which, when ascertained, gives the period of their revolution around each other. They are too near to be divided by any telescope, hence the periods of spectroscopic binary stars are much shorter than those visually seen by the telescope. This department of astronomy is not new. In 1889 Miss Maury, of Harvard College Observatory, while examining some Harvard celestial photographs, found that the lines in the spectrum of Zeta Ursa Majoris close up and separate once in fifty-two days, thus indicating that a complete revolution is made in one hundred and four days. Prof. Campbell, director of Lick Observatory, announces that he has found, by spectroscopic methods, that the pole-star (Alpha Ursa Minoris) is a spectroscopic binary, consisting of three suns belonging to a single system, which revolve round each other, the brightest of which is, as everybody knows, visible to the naked eye. What causes this star to be the most wonderful

of all its components is the shortness of the period of revolution, only four days. As we do not know how far apart the components are, their linear velocity in miles can not be ascertained, but it must be enormous.

More than twenty discoveries like that mentioned above have been made at the Lick Observatory, but this surpasses them all, not even excepting that of Capella, another spectroscopic binary lately discovered. One significance of this announcement is, that Prof. Campbell has also discovered that the pole-star recedes from and approaches the Earth at a velocity of about 5 miles a second. In two days it increases to 8.7 miles, and then gradually decreases during the next two days to 5 miles. He concludes that the visible star is revolving round a dark and invisible body, in an orbit not greatly different from the size of our Moon's orbit round the Earth, once in four days, surpassing in speed everything known except light and electricity. From the shifting of the spectral lines toward the violet it is supposed that the entire triple system of Polaris is approaching the earth at the rate of 15 miles a second.

Mrs. Fleming, of Harvard College Observatory, has discovered Zeta Centauri to be a spectroscopic binary, and Miss Cameron has lately found Pi Scorpii to be one, by the shifting to and fro of the lines in their spectra. Herr Belopolsky calls the attention of spectroscopists to the star Iota Pegasi, whose motion in the line of sight seems to show a variation in a period as short as one day, surpassing in this element all other spectroscopic binaries. The spectrum resembles that of the dog-star, with heavy hydrogen lines and narrow lines of iron.

A noteworthy result in the work of the past year is that a great number of stars are found to have variable velocity, thus indicating beyond doubt that they are spectroscopic trinarities. From a list of 40 the following are transcribed, being mostly of short period:

	Period.
Alpha Virginis.....	4.013 days.
Alpha 1 Scorpii.....	1.46 day.
Alpha 1 Geminorum.....	2.93 days.
Eta Pegasi.....	2.25 "
Delta Leonis.....	1.92 "
Mu Scorpii (shortest known).....	1.458 "
Omega Leonis.....	14.25 "
Alpha Aurigæ.....	104 "
Kappa Pegasi.....	6 days. One component of Burnham's binary. Dark companion.

In the *Astrophysical Journal* for January, 1901, Prof. Campbell publishes a list of 6 with specially large motions in the line of sight, 3 of which have motions of 62 miles a second. Included in the list is the well-known parallax and proper-motion star Mu Cassiopeia, with a velocity of 61 miles a second. Assuming for the parallax 0.275, and for the proper motion 3.95" a year, the star's velocity at right angles to the line of sight would be 41 miles a second, about a third of which, however, should be ascribed to the motion of the solar system in space. It is perhaps worth noting that this star, being one of the nearer stars and exceptionally rapid in its motion, should also be one of the first to show a change in brightness due to changing distance. A short computation from the figures given shows that the change in its distance should make it brighter by a tenth of a magnitude in about two thousand years, or a full magnitude in twenty thousand years.

The New Star in Perseus.—Another wonder has recently appeared in the sky, which has been watched with intense interest by every astronomer in the northern hemisphere, and enough has been

written on the subject to fill a dozen large volumes. Not since the writer's remembrance has any unexpected astronomical phenomenon occurred that has taken so deep a hold on the popular as well as the scientific mind. It was discovered Feb. 21, 1901, at 14^h 40^m Greenwich mean time, by Rev. Dr. Anderson, who watches the heavens for variable and temporary stars. It was then of the 2.7 magnitude, which at seven o'clock on the 22d had increased to 0.3 of a magnitude brighter than the first-magnitude star Aldebaran. At 8^h 10^m it was 0.2 brighter than Capella, a much brighter star than Aldebaran, almost equaling Sirius, the brightest of all the stars, commonly called the dog-star. It appeared in the Constellation Perseus, in right ascension 3^h 24^m 24.12^s, declination north 43° 33' 39.51" for epoch 1900.0. On Oct. 18, 1894, a photograph was taken of the region with the 24-inch Bruce photo-telescope at Harvard College Observatory, with an exposure of fifteen minutes, which showed stars down to the 12½ magnitude, but revealed no star at the place of the new star. Another photograph of the same region was taken on Feb. 19, 1901, with the Cook lens, revealing stars down to the seventh magnitude, with an exposure of sixty-six minutes, and it showed not a trace of the new star. The last photograph was taken only two days before its visual discovery. Only twenty-eight hours before its discovery by Dr. Anderson, Mr. Stanley Williams photographed the same region, when the star, if it existed, must have been as faint as of 12½ magnitude, so that in twenty-eight hours it must have increased in brightness 100,000 times. At its maximum it was the brightest temporary star that history records, except the celebrated Tycho Brahe's star of 1572, which was visible to the naked eye at noonday.

In the past thirty years a dozen *novæ*, as they are called by astronomers, have suddenly appeared, but none were equal to this in the brilliance and color and extent of its fluctuations, the latter being a characteristic feature of them all. The line must be sharply drawn between temporary and variable stars described elsewhere, as the two phenomena are entirely dissimilar. Many theories have been advanced to account for their sudden increase in brightness and anomalous behavior while visible—such as collision of star with star, star with a planet to some other star, star with a nebula, star with a meteoric stream, star with an asteroid, and asteroid with an asteroid; but all appear untenable. It seems strange that no one has suggested the collision of a star with a comet, which to the writer's mind seems the most plausible, not only to account for its sudden increase in brightness, but also for fluctuations in brilliance and final extinction in a few weeks or months. All comets are of enormous size; that of 1811 was the largest object on which the eye of man has ever rested, being 1,250,000 miles in diameter, in comparison with which our Sun is a dwarf; its tail was nearly 1,000,000 miles in diameter and 50,000,000 miles in length. Should a star enter the coma of such a comet, its light would gradually increase to its maximum on its arrival at its nucleus, and gradually diminish as they all do. On the other hand, should a star collide with a star, both would in a moment be converted into a white-hot liquid, if not a gas, and the increase of light would be at its maximum in an instant instead of gradually, as observed, and would require thousands of years to cool below bright luminosity. Should such a comet fall into our Sun, the effect would be appalling, and the inhabitants of a planet belonging to some other sun would be spectators of

a temporary star, as we lately have been. The phenomena outlined above would also be observed should the star pass through a gaseous nebula instead of a comet. On Feb. 24, at noon, the *nova* reached its maximum of brightness, and then began to decline. From 3.6 magnitude on March 18, the star fell to 5.2 the next day, or 1.6 magnitude in twenty-four hours. The *nova* now flashed up again and was 3.6 on March 20, and then decreased to 5.5 on the 22d; and the next day it had again risen to 3.7, and thus it fluctuated. Spectroscopically it presented several features never before observed in any temporary star. Its spectrum in many respects resembles that of other temporary stars that have appeared in the past fifteen years, being not quite continuous, but crossed by broad hydrogen and helium lines, each consisting of a bright component toward the red end, and a dark component toward the violet end. It is a striking spectrum even with a small spectroscope, the bright C line in particular being quite conspicuous, but the D line less prominent. In the past fourteen years, or since the general application of photography to astronomy, eight new stars are known to have appeared—viz., Nova Persei in 1887; Nova Aurigæ in 1891; Nova Normæ in 1893; Nova Carinæ in 1895; Nova Centauri in 1895; Nova Sagittarii in 1898; Nova Aquillæ in 1899; and Nova Persei in 1901. The second and last of these, which were much brighter than the others, were both discovered by Dr. Anderson. All the others were found by Mrs. Fleming from an examination of the Draper Memorial Photographs. The helium and hydrogen lines of the last were persistent, but during its bright career its spectrum exhibited three distinct phases of change. At first the general appearance of the photographic spectrum resembled that of the Orion type, and was very unlike that of other new stars in which the bright lines were the most conspicuous. On some occasions the spectra of temporary stars change to that of a gaseous nebula. Nova Auriga had a double spectrum of lines and bands. The displacement of the lines toward the red indicated a velocity from us, in the line of sight, of 500 miles a second; while the bands, by their displacement toward the violet, showed a rapid motion toward us, as if the star, moving from us, had plunged into some nebulous object moving toward us, causing the double spectrum. Nova Auriga was visible in November, 1901, as a faint nebulous star. The temporary star of 1885 appeared exactly in the center of the great nebula in Andromeda, one of the six nebulae visible to the naked eye, but whether it in any way was connected with the nebula is unknown.

Prof. T. E. Espin calls attention to the anomalous fact that from right ascension xix hours to xxi hours, there are 13 planetary nebulae, and in all the other xxii hours there are but 11, and in this small portion of the sky nearly all the new stars have appeared.

Star Trails.—Owing to the rotation of the Earth from west to east, all the stars appear to make a daily revolution around the sky from east to west. If, therefore, a photograph camera be accurately pointed to any star, and exactly held on the guiding cross of spider threads in the pointer, the plate will show every star a point,

and every moving object a trail, the length of which will depend on the length of time of exposure and its velocity. On the other hand, should the camera be held on the moving object, all the stars will likewise leave trails on the plate, their lengths depending on their polar distance and time of exposure. If the moving object be examined by a telescope, it will be found to be an asteroid, a comet, a satellite, or a planet.

Formerly the asteroids were searched for by the telescope, and a long watch was kept up to detect motion of anything in the field. They are now searched for by the trail process, which results in the frequent discovery of new ones. Since 1900 twelve new minor planets have been discovered, which are numbered from 452 to 466 inclusive. Those designated FB, FO, FR, and FT were found, on computing their orbits, to be identical.

Solar Motion in Space, or Solar Apex.—Among the marvels of astronomy is the well-established fact that the Sun, like a mighty locomotive, is traveling toward the stars in a certain region of the sky, as determined by the spectroscope, hauling the entire solar system at the rate of 8 to 12 miles a second. Whether it be moving in a straight line or an orbital curve is unknown. It is the opinion of many that its path is orbital, and that the cluster called the seven stars, or Pleiades, is the center around which it is revolving, in a period of millions of years. Behind the area occupied by them the photographic plate, with a long exposure, depicts the existence of 2,326 stars. The point toward which the solar system is moving (in our age) is in right ascension 18^h 36^m, declination north 19° 58'; or, in the constellation Hercules, nearly 19 degrees south of Alpha Lyra or Vega. These deductions are by Prof. W. W. Campbell, director of Lick Observatory. In the January number of the *Astrophysical Journal* he describes his method of procedure. His results have been obtained by measuring the velocity of recession or approach of certain se-



FIG. 1.—FEBRUARY 20, 1901. 18:41 TO 19:17 G. M. T. POWER, 500; SEEING, 3. A. E. D.

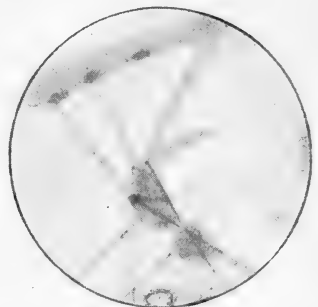


FIG. 2.—JUNE 5, 1901. 13:45 TO 14:1 G. M. T. POWER, 371; SEEING, 5. P. L.

lected stars by means of the spectroscope. He has, in all, employed 280 stars in his most recent research, and, as a final result, he finds that the point in the heavens toward which he supposes the solar system to be travelling is as given above. This is about 15 degrees south of the solar apex as calculated by Prof. Simon Newcomb.

Mars.—Astronomers have been too intensely occupied with the new star and the variation of Eros in brilliance to devote much attention to Mars. But the newspapers have not been backward in publishing "messages from Mars," a sensational and misleading title. What Prof. Douglas saw, and what he announced, was a cloud lighted up by the setting sun, which was visible

for seventy minutes. It was truly a message from Mars, but not from its inhabitants. The so-called discovery of canals comes in the same category. The illustrations herewith, especially the second, are the most accurate of the photographic delineations of the so-called canals that have been made. Fig. 1 was taken by Prof. E. A. Douglas, of the Lowell Observatory, Flagstaff, Ariz., Feb. 20, 1901; power, 500; exposure, thirty-six minutes. Fig. 2 was taken by Prof. Lowell, the director, June 5, 1901; power, 371; exposure, sixteen minutes. Both show the north polar snow cap. No cause worth recording has been assigned for the long hairlike lines. They can not be clouds, but the other markings may be. Both views show, as Prof. Lowell says, "the Mare Acidatum, also the changes in the canals during the interval," and also changes in the snow cap. As regards the habitability of Mars, no one doubts. It seems improbable, however, that of all the eight planets, the Earth alone should be the home of sentient beings. And the same may be said of the planetary worlds that revolve around the countless millions of other suns.

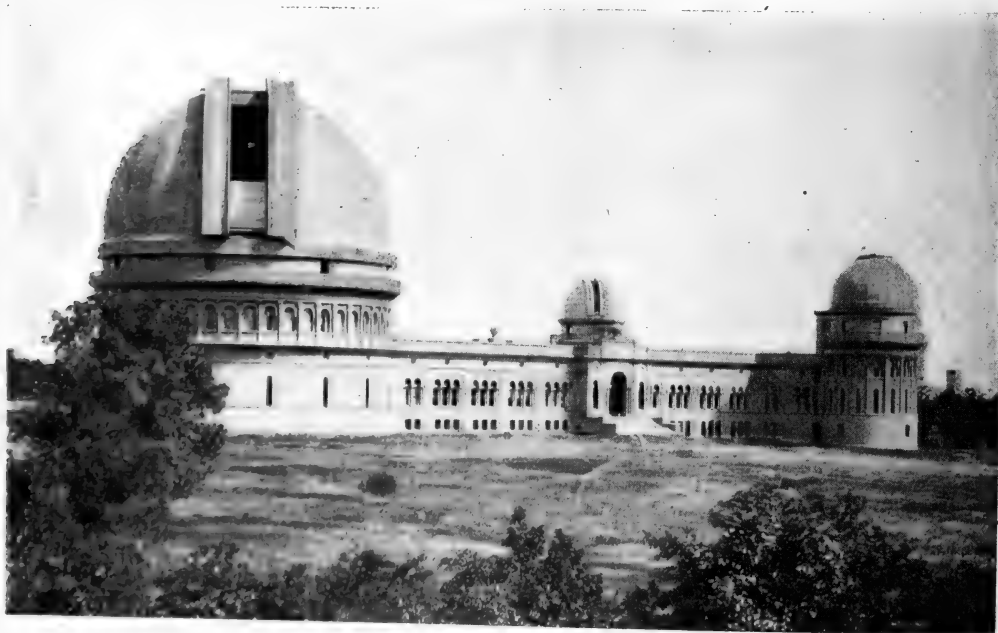
Jupiter.—The planet Jupiter affords many examples of the marvelous, proving true the trite saying, "The astonished astronomer has nearly outgrown his ability to be astonished." This giant planet has lately been well situated for observation, being on the meridian at midnight, and has been the target for bombardment by the telescope, spectroscope, and the photo-camera. Abundant evidence appears that Jupiter, from its immense size, has not yet emerged, as our world has, from his liquidity by heat, being still a white-hot world. One new feature lately observed is the existence of faint lines, somewhat resembling the

At this writing they have again appeared. No cause has been suggested that bears the impress of probability, but it affords another strong argument in favor of the hypothesis that Jupiter is in a white-hot, semifluid condition.

Another curious feature of Jupiter's disk is his belts. Several are visible, even with small telescopes, on each side of his equator, extending entirely around the planet. They are probably clouds, assuming the beltlike form by the rapidity of his rotation, only $9^h 55^m$, coupled with his giant size, 274,000 miles in circumference.

The same stripes are easily seen on Saturn, and with some difficulty on Uranus. Recently they have been seen there with the great telescope at the Naval Observatory. They therefore seem to be a feature belonging exclusively to the four outer planets, as the four inner ones have none. They are so conspicuous on Jupiter that he is often called the striped planet.

The librations of some of the shadows of Jupiter's satellites, while transiting his disk, have, ever since the invention of the telescope, attracted much attention, and elicited not a little discussion among astronomers. To deal intelligently with the problem, more observations than it has yet received are necessary. About three years ago Mr. C. T. Whitmell predicted that Satellite III, when Jupiter was in quadrature, if transiting his disk equatorially, would be $6\frac{1}{2}$ times broader at the phase limb than at the other, and that its height would remain constant; but if the transit was not equatorial, the change in breadth would be less. Lately these predictions have been verified by observation by Mr. S. Bolton and others, whose results are in admirable agreement.



THE YERKES OBSERVATORY, WILLIAMS BAY, WISCONSIN.

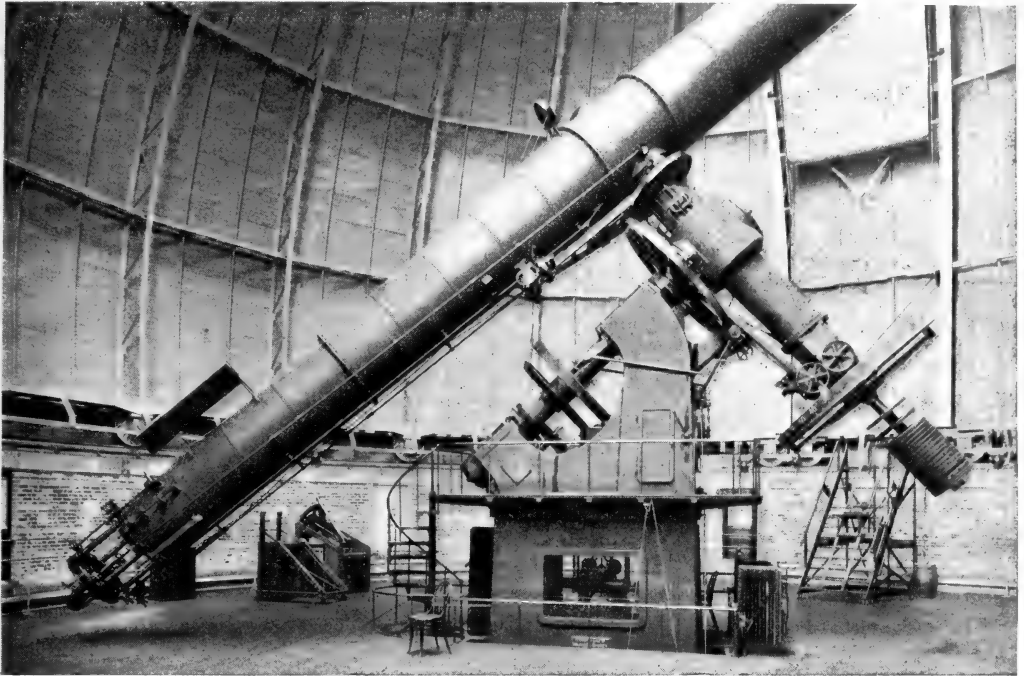
so-called canals on Mars, crossing at various angles one of his equatorial belts. No cause has as yet been assigned for their existence there and not elsewhere. In 1869, 1880, and 1890 small black spots mottled his surface, which gave rise to the theory that the phenomenon is periodic.

Prof. Schaeberle, of Lick Observatory, also drew attention about the same time to the strange behavior of the shadows not only of this, but also of the other three.

On June 30, 1902, the Earth as seen from Jupiter will transit the Sun, as do Mercury and

Venus as seen from the Earth. During the transit Satellite I will cross the disk of Jupiter in a way that will occult its own shadow, which, owing to the penumbral fringe being larger than the satellite, will cause it to be seen as a ring around the satellite. As such a phenomenon is rare, it will be extensively observed, for it has never yet been seen by mortal eyes, nor can it be

being greatest in middle latitudes and less at the equator and the poles. This conclusion is derived from the observation of the relatively small cloudlike masses lying in the upper regions of the planet's atmosphere. It is very doubtful whether the red spot is to be considered as a cloudlike mass. It seems to lie in the deeper levels of the Jovian atmosphere, as is indicated by appear-



THE GREAT TELESCOPE OF THE YERKES OBSERVATORY.

except when the Earth is transiting his disk, which will not occur again in several hundred years.

Prof. Edward E. Barnard, the discoverer of Jupiter's fifth satellite, has in the past two years made it a study, and finds its orbit elliptical, like all the 21 moons in our system. This, the smallest member of our system except the asteroids, revolves around the planet in $11^h 57^m 22.64^s$. Not only do the planets revolve, but their orbits also do the same. The Earth's orbit makes a revolution once in 109,830 years, while that of the little moon under consideration completes its revolution in 4.9 months, or over 900 degrees a year, or 2.465 degrees a day. Seen from the little moon, Jupiter's disk would extend half-way from the horizon to the zenith. The solar system affords no other example of so rapid a motion or anything comparable to it.

When the great red spot or continent, which resembles a floating island, is observed for the purpose of determining the period of the planet's rotation on his axis, it is found that the period is subject to a regular change, causing a lengthening of its period. Of course the rotation period of the planet itself can not change, but must forever be a constant quantity. This oval red spot was discovered, or, rather, first noticed, in 1869, and since it has floated three-fourths around the planet from east to west, or the reverse of the planet's rotation. The spot has slowly increased in length since its discovery. The rotation period of Jupiter is not the same in different latitudes,

ances when it is near the borders of the planet. Small bright objects are often seen above it, and its surface is frequently veiled by a thin cloudlike screen. Prof. Bredichin, who has made this strange phenomenon a study for years, considers the brick-colored spot a solid mass, sliding over the liquid surface of the planet, among the lower layers of the vaporous atmosphere. It is very improbable that the spot is a sea of glowing lava, as many suppose, because of its color, but more likely a semisolid crust. The width of the spot is 8,000 and the length 30,000 miles.

A Nest of Nebulae.—One of the most remarkable discoveries made in recent years in astronomy was the depiction on a photograph plate covering a portion of the sky two minutes less than the disk of the Moon of 108 nebulae. The photograph was taken by Prof. Max Wolf, at the Heidelberg Observatory, with the Bruce photographic telescope. This astonishing cluster is in the constellation Coma Berenices, in a nebulous region due east of the star β , and preceding it by about thirteen minutes of time. Four or five of them occupy a larger space than the others, and show central condensations, and some are elongated; but the greater number are round and very small. We should call a single nebula small whose apparent size was equal to the Moon. The photograph was taken on March 4, 1901. This is another striking example of what celestial photography is accomplishing in regions from which the actinic rays have been speeding toward us with the velocity of light for thousands of years.

A Magnificent Bolide.—Since the last report but two fire-balls or bolides have appeared in any part of the world. They appear so unexpectedly and suddenly, and disappear so quickly, it is impossible to make observations of much value to determine their height above the Earth, or how and where they are formed, and if their paths are orbital or simply tangential to the Earth. One appears to have been of unusual brightness. From published accounts it appears that not since the famous one of 1860, which traveled the atmosphere from the Rocky Mountains to Nantucket, has one so interesting appeared. It was first seen in England, and was visible over a wide extent in Ireland, Wales, and the Isle of Man. Reports from 258 stations have been received, from which its height above the Earth at the beginning, middle, and end of its visible path has been computed, and also its velocity. The length of its path in England was 66 miles, height 68 miles, decreasing to 26 miles, velocity 11 miles a second. It appeared Oct. 21, 1900, at 8h 35m 25s. Many observers made the usual reports of a noise having been heard during its passage. Such sounds, however, are purely imaginary and impossible, for it was visible but a few seconds, and was at a height of 26 miles, so that before the sound could reach the observer the meteor must have disappeared at least two minutes. It is a very loud noise that can be heard 26 miles, especially if it is made in a medium as rare as our atmosphere is at a height of 26 miles. A singular circumstance connected with this phenomenon was that on the same evening 5 other fire-balls were seen, but none comparable to the one above described, and all from different radiants.

On the afternoon of Dec. 7, 1900, a fire-ball passed across Colorado and Wyoming, which is said to have rivaled the Sun in brightness. It appears to have burst near the northern boundary of Colorado, and horses and cattle were terribly frightened by it. It may have been entirely consumed, or fallen to the Earth as dust, or may have continued on its journey, and may still be rushing through space.

There appears to be no connection between bolides and shooting-stars, as many suppose. During the great star showers of Nov. 13, 1833, and a repetition of it on Nov. 14, 1866, both of which the writer witnessed, when countless thousands were visible from any one point, not a bolide was seen.

Asteroids.—A broad stripe of the heavens on each side of the ecliptic is tattooed with these little "pocket planets," as they are often called; all revolving round the Sun with as much dignity as the Earth; all in the same direction, west to east; and all very small, from 15 miles in diameter to Ceres, 477 miles. The smaller would be a world but 47 miles in circumference. When a new one is found it receives a provisional letter (as ES), and when ascertained not to be identical with any before known it receives a permanent number (as 446). It finally receives a name.

It is a great task to take care of so large a family (nearly 475), and astronomers now look with disfavor on their further discovery; but since the very faint Eros was found—which has an orbit so abnormal, and is going to solve the problem of the Sun's distance, having two-thirds of its orbit between the Earth and Mars, while the others are all between Mars and Jupiter—they look with more favor on the continued search.

The following numbers have recently received names, for the discovery of which Prof. Max Wolf, of Heidelberg, appears to have a monopoly:

No.	Name.	No.	Name.	No.	Name.
353.	Ruperto Carola.	384.	Burdigala.	420.	Bortholda.
354.	Eleonora.	385.	Ilmatar.	421.	Zahringia.
355.	Gabriella.	386.	Siegona.	422.	Berolina.
356.	Liguria.	388.	Charybdis.	423.	Diotima.
358.	Appolonia.	389.	Industria.	424.	Gratia.
361.	Bononia.	390.	Alma.	425.	Cornelia.
362.	Havnia.	391.	Ingeborg.	428.	Monachia.
363.	Padua.	392.	Wilhemina.	432.	Pythia.
364.	Isara.	393.	Lamphetia.	433.	Eros.
365.	Corduba.	397.	Vienna.	434.	Hungaria.
366.	Vincontina.	399.	Persephone.	435.	Ella.
367.	Amicitia.	401.	Ottilia.	436.	Patritia.
369.	Aeria.	402.	Chloe.	439.	Ohio.
370.	Modestia.	403.	Cyane.	440.	Thesdora.
371.	Bohemia.	404.	Arsinoe.	442.	Eichsfelia.
372.	Palma.	405.	Thia.	443.	Photographia.
373.	Melucina.	407.	Arachna.	444.	Gyptis.
374.	Burgundia.	408.	Fama.	445.	Edna.
375.	Ursula.	409.	Aspasia.	446.	Ætermitas.
376.	Geometria.	412.	Elisabetha.	447.	Valentina.
377.	Campania.	413.	Edburga.	449.	Hamburga.
378.	Holmia.	415.	Palatia.	450.	Brightta.
379.	Huenna.	416.	Vaticana.	451.	Patientia.
380.	Fiducia.	417.	Suevia.	454.	Mathesis.
381.	Myrrha.	418.	Alemania.	455.	Bruchsalia.
382.	Dodona.	419.	Auretia.	457.	Allsghenia.

Dr. Edward E. Barnard, with the micrometer of the 40-inch refracting telescope at Yerkes Observatory, has made many observations and measurements of the first four discovered asteroids—Ceres, Pallas, Juno, and Vesta. The first was discovered on the first day of the nineteenth century, Jan. 1, 1801. None but a practical astronomer can form the least conception of the difficulty of making such delicate measurements as these. He says "the values 0.095" and 0.263", from the measures of 1894, are as closely in agreement with previous results as can be expected; this is pleasing after having waited six years for a chance to measure them again."

These are the largest of all the minor planets. Following are the assumed diameters of the four: Ceres, 477 miles; Pallas, 304; Juno, 120; Vesta, 239 miles. These figures are the results of fifty-nine nights' work.

Comets.—Since last report, five comets have been discovered—viz., (a) (b) and (c) in 1900, and (a) and Encke's in 1901. Comet (c) of 1900 was discovered by Giacobini, and adds another to the constantly increasing list of comets of short period. It was not large or bright, but it was visible for a long time, which enabled astronomers to determine that its period is approximately seven years.

The first comet of the twentieth century—(a) of 1901—has in brightness, and in several other respects, surpassed all comets since the famous one of 1882. Unfortunately, it was so placed and its direction of motion was such that it was seen at but two Northern observatories—by Prof. E. L. Larkin, director of the Mount Lowe Observatory, Echo Mountain, southern California, and by Prof. Campbell, of Lick Observatory. Prof. Larkin says it "was observed for thirty-four minutes on May 17, and thirty-six minutes on the 18th, when it disappeared behind the peaks of the Tejuanga, a spur of the San Gabriel mountains. On the last date it was well seen, but it had become very much fainter. Its tail was very broad in proportion to its length, which was only one degree. Its motion was rapid, and no trace of it could be seen on the 19th, 20th, or 21st. No time was available to secure its spectrum." Its orbit elements indicate it to be an ellipse of long period. It was discovered by Mr. A. Hills, at the Cape of Good Hope, and by Mr. Tattersall, of West Australia, on the morning of April 23, at which time it was near perihelion and very bright, with a tail or tails about 10 degrees in length. Its period is estimated at 1,143 years.

Encke's comet has the shortest period of any,

only 3.3 years. Those of the shortest are called Jovian comets, because when at their aphelia they are at or near the orbit of Jupiter. Of this class there are 22. Similarly Saturn has 3, Uranus 4, and Neptune 6. The present status of these periodicities is doubtless due to the attraction of those giant planets. The first recorded appearance of Encke's comet was in 1786. On a subsequent return to perihelion it was rediscovered by Caroline Herschel, and in 1818 it was again seen, without raising a suspicion that it was the same comet. Collecting the observations made in 1818, Encke attempted to compute an orbit for it, on the supposition that it was a parabola or an hyperbola, but failed, as it seemed to be not only an ellipse, but one of only three and a quarter years. As the time for another return drew near, he computed a finding ephemeris for it for 1822, and it kept its appointment to within a few days; but unfortunately it was visible only in the southern heavens, and was seen by only a single person. Since then it has not been missed at a single return. It is sometimes seen with a short bushy tail, but generally it is tailless, appearing like a faint circular hazy disk. It is sometimes visible to the naked eye. One anomalous feature of the motion of this comet is that its period is regularly shortening at the rate of about two hours at every return. The cause of this retardation is unknown. It is usually, and with some reason, ascribed to its encounter with something, no one knows what, called a resisting medium, that pervades all planetary spaces and may be of infinite extent. If this theory be true, the same influence will ultimately cause all the planets to fall into the sun.

Brorsen's comet, due at perihelion in January last, escaped detection, as is often the case with short-period comets. Denning's comet also escaped detection.

Astronomical Photography.—The popular as well as the scientific world view with astonishment the advancement in this new department of astronomy. The rapid plates take to a great extent the place of the human eye. Daily and hourly, in some part of the world, the Sun is photographed, thus recording the number, size, and position of his spots and pores and faculae. The constellations are likewise photographed, brought to view, by long exposure, stars too faint for any visual telescope to see, and clusters and nebulae whose light left them hundreds and thousands of years ago. Dr. Roberts, of England, who ranks high as a celestial photographer, has recently published a volume of his photographs of various objects, such as the Sun, Moon, comets, clusters, the Milky Way, and double and triple stars, which is very valuable. A more wonderful or interesting story has seldom been presented to the world than the marvelous revelations of what the great Crossley 3-foot photographic telescope at Lick Observatory has done in celestial photography, as manipulated by the late Prof. Keeler. His photographs of the ring nebula in Lyra, the annular nebula in Cygnus, the famous cluster of stars 13 Messier in Hercules, the great nebula in Andromeda, and many other interesting objects, reveal much that was formerly unknown. Happening to expose one of Dr. Swift's faint nebula, he found that it was spiral. A comparison of these photographs with those to be taken centuries hence may decide many questions.

At Harvard Observatory, in the last two and a half years, 10,000 photographs have been taken. By an exhaustive examination of the plates it was found that the famous asteroid Eros, now attracting so much attention, appears on 15 charts taken

before it was discovered by Witt, and on 5 spectrum plates between October, 1893, and May, 1894, and on 6 plates in 1896. On one of the plates 8 asteroids were depicted, and on another 46 new nebulae were counted. Prof. Keeler discovered 7 new nebulae on a photograph plate that had been exposed to the well-known nebula 51 Messier, all on one square degree. On a plate exposed four hours on one of Herschel's nebula in Andromeda, 36 new nebulae and nebulous stars were found, and on another 20. All these had escaped Sir William Herschel's eye and telescope. Besides the nebulae, there was often found a considerable number of objects which are probably nebulae so small that the resolving power of the great 36-inch telescope is insufficient to define their true character.

Dr. Isaac Roberts has found by photography a very remarkable nebula in Monoceros, which is well worthy of study. A black gap or hole is in the center, resembling a dark tunnel through which everything beyond is of inky blackness, in appearance totally unlike any other known nebula.

These citations are sufficient to show how photography, by long exposure and rapid plates, reveals objects far beyond the powers of any telescope. The Milky Way, that mighty Gulf Stream of stars, is made up of the silver light of hundreds of millions of suns, only a few of which will ever be visually seen by any telescope.

Astronomical Prizes.—The following astronomical prizes since the last report have been awarded to astronomers for meritorious work in its several departments:

The Laland prize, of a silver medal and 540 francs, was awarded by the French Academy of Sciences to M. Giacobini, of the Nice Observatory, for the discovery of comets (a), Jan. 31, 1900, and (c) of Dec. 20, 1901.

The Damoiseau prize was awarded to J. von Hepperger, Professor of Astronomy at Graz, for investigations into the motions of Biela's comet at its separation into two separate comets at its return in 1846, resulting in the production of the two Andromeda star showers of Nov. 26 and 27.

The Valtz prize was given to Abbe Verechaffel, of the Abbazia Observatory, for extensive star-zone work.

The Janssen prize, a large gold medal, was awarded to Dr. Edward E. Barnard, now of Yerkes Observatory, for the discovery, in 1892, of Jupiter's fifth satellite.

The Gold Medal of the Royal Astronomical Society of England was bestowed on Prof. Edward C. Pickering, director of Harvard College Observatory for extensive astronomical research.

The same society presented a cash prize of 1,000 guineas to Sir William and Lady Huggins, for distinguished services to astronomy.

Beginning with 1823, the Royal Astronomical Society of London has, with a few exceptions, annually awarded a gold medal for conspicuous originality and research, in whatever country they might be shown; and the honor is heightened by the fact that occasionally it has voted to give no medal at all. For forty-two years no award was made outside of England and the Continent of Europe, and it was only in 1865 that the medal first came to this country, twenty years after the establishment of the first American observatory. The recipient was Prof. George P. Bond, director of Harvard Observatory, a son of Prof. William C. Bond, former director of the same observatory. Nine years later the same honor was conferred on an American astronomer, Prof. Simon Newcomb, of Washington, whose

work at the Naval Observatory, and also in the compilation of the Nautical Almanac, was remembered. The declared reason for its bestowal, however, was his tables of Neptune and Uranus and his contributions to mathematical astronomy. In more than fifty years, then, only two Americans received the society's medal. The contrast between this record and that of the next twenty-five years is sufficiently emphasized in the mere statement that, out of the 21 awards made in the quarter of a century ending with the present year, 8, or more than a third, have come to the United States, not including a special award, called the Hannah Jackson Gwilt Medal, given to Dr. Lewis Swift in 1897. When it is remembered that the other 15 were distributed in England, Germany, and France, the comparative accomplishment of this country in a science which is generally considered to be the most purely scientific of all, will be the more readily realized.

Women as Astronomers.—The recent publication of the Vassar College Observatory is one of peculiar interest. It gives a mass of valuable work that would do credit to any observatory where women never enter. The observers there have published a catalogue of stars within one degree of the north pole. Miss Caroline Furness has measured the distortions of the Helsingfors astro-photographic telescope deduced from photographic measures. Mary W. Whitney is the director of Vassar College Observatory, over which the late Maria Mitchell so long and ably presided, to whom the King of Denmark presented a gold medal for discovery of a comet. At the instance of Prof. Jacoby, of Columbia University, Miss Whitney procured a Repsold micrometer, which Miss Furness has employed in the measurement of twelve photograph plates of the north-polar sky, sent to Prof. Jacoby by Prof. Donner, of Helsingfors, in Finland, who took them. She pronounces Donner's plates to be entirely free from optical distortion.

Every astronomer in the world recognizes the valuable aid rendered to astronomy by Mrs. Fleming, long a valued assistant to Prof. E. C. Pickering at Harvard College Observatory, who has discovered many variable and some temporary stars. In one year she discovered 23 new variables, 15 of which showed bright hydrogen lines in their spectra.

Mme. Ceraski, of Moscow, has discovered many variable stars, some of them being of a distinct type. The first variable—21, 1900, Monocerotis—was discovered by her. By examining photograph plates she found the star in March, 1899, to be of $11\frac{1}{2}$ magnitude, but in March, 1900, it had risen to the ninth magnitude, and in October to 8.8.

Lady Huggins has devoted years of arduous labor to the advancement of astronomy, and her achievements were considered so valuable that she, jointly with her distinguished husband, Sir William Huggins, was recently presented by the Royal Astronomical Society with 1,000 guineas. Among others is Miss Agnes Clerke, who is noted as a writer on astronomical subjects.

AUSTRALASIA, one of the grand divisions of the globe, consisting of the continent of Australia and island colonies of Great Britain, with interjacent islands. With the exception of the Dutch and German portions of New Guinea, the German protectorates of the Bismarck Archipelago and the northern Solomon Islands, the French colony of New Caledonia, and some islands under native rule, chief of which are the New Hebrides, all the islands of Australasia belong to Great Britain. The six colonies of the Australian

Commonwealth and the colony of New Zealand are self-governing, each having its representative Legislature, with a responsible ministry, disposing of its own revenues and making its own laws under a charter granted by the British Parliament, subject to a certain reserved veto power of the Imperial Government. Important powers of legislation and taxation have now been delegated by the Australian colonies to the Federal Parliament, over which the imperial control is less authoritative than it has been over the individual colonies. The executive chief who represents the Crown and gives final sanction to legislation in the Federal Commonwealth is a Governor-General.

The Commonwealth of Australia.—The Federal Parliament consists of a Senate and a House of Representatives. Each of the six states forming the commonwealth sends 6 Senators to the Parliament, who are elected by the whole body of voters in the state. The term is six years, and half the Senate is renewed every third year. In case of a deadlock between the Senate and the House of Representatives the Senate must be dissolved and new Senators elected. The House of Representatives consists as nearly as may be of twice as many members as there are Senators, and the seats are apportioned among the colonies according to their population. The first Parliament has 75 representatives, of whom New South Wales sends 26, Victoria 23, Queensland 9, South Australia 7, Western Australia 5, and Tasmania 5, every colony being entitled to at least 5 seats. The term is three years unless the House of Representatives is dissolved by the Government before that time expires.

The Senators, as well as the members of the House of Representatives, are elected by the electors in each state who are qualified to vote for members of the lower house of the state Parliament, but plural voting is not allowed in Federal elections. A Senator or a member of the House of Representatives must be a British subject by birth, twenty-one years of age, or have been naturalized for five years, and must have been a resident of Australia for three years, the qualification being precisely the same as for an elector. The Senate does not have the power of initiating taxation or money bills, but may reject them or send messages to the other house suggesting amendments. Members of Parliament receive £400 a year, ministers not more than £12,000 for the whole Cabinet, the Governor-General £10,000. Ministers must be members of Parliament, or become elected within three months.

The Federal Parliament has power to legislate on matters relating to commerce, railroads, shipping, lighthouses, common finance, defense, postal, telegraph, and allied services, census and statistics, marriage and divorce, emigration and immigration, currency and banking, weights and measures, and conciliation and arbitration in labor disputes. The Governor-General has a Cabinet of 7 ministers, all of whom must be members of Parliament, or must secure election within three months after their appointment. The commonwealth, comprising the colonies of New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania, designated the Original States, was proclaimed on Jan. 1, 1901, five colonies having expressed by a general vote of the people their desire to federate, and the British Parliament having on July 9, 1900, passed the act constituting the commonwealth. Western Australia voted to enter the federation in August, 1900.

The Earl of Hopetoun was appointed in November, 1900, to be the first Governor-General of

Australia, his functions beginning with the inauguration of the commonwealth on Jan. 1, 1901. John Adrian Louis Hope, the seventh Earl of Hopetoun, born Sept. 25, 1860, at the hereditary seat in Scotland, succeeded his father at the age



THE EARL OF HOPETOUN, GOVERNOR-GENERAL OF AUSTRALIA.

of thirteen, was educated at Eton, and passed at Sandhurst, but did not enter the army. He was whip in the House of Lords, lord in waiting to the Queen, lord high commissioner to the General Assembly of the Church of Scotland in 1887 and the two following years, and in 1889 was appointed Governor of Victoria to succeed Sir Henry Loch. Returning to England in 1895, he presided over the Institute of Naval Architects, succeeded Lord Lathom as Lord Chamberlain at the end of 1898, and received his appointment as the first Governor-General of Australia in November, 1900.

The first ministry was composed as follows: Prime Minister and Minister for External Affairs, E. Barton; Attorney-General, A. Deakin; Minister for Home Affairs, Sir W. J. Lyne; Treasurer, Sir George Turner; Minister of Trade and Commerce, C. C. Kingston; Minister of Defense, Sir John Forrest; Postmaster-General, J. G. Drake.

The Crown colony of Fiji is administered in accordance with native laws and customs, and its Governor is High Commissioner for the Western Pacific, intrusted with the supervision of British interests in the islands under native rule. British New Guinea is under the administration of a Lieutenant-Governor instructed by the British Colonial Secretary in agreement with the Australian colonial authorities. New Zealand has not joined the commonwealth.

Area and Population.—The area in square miles of the states forming the commonwealth, according to the latest surveys, and their population as estimated in 1899 are given in the following table:

ORIGINAL STATES.	Area.	Population.
New South Wales.....	310,367	1,356,650
Victoria.....	87,884	1,163,400
Queensland.....	668,497	512,604
South Australia.....	903,690	370,700
Western Australia.....	975,920	171,032
Tasmania.....	26,215	182,508
Total.....	2,972,573	3,756,894

The increase in the population of New South Wales in ten years was 274,830, and of this increase 17 per cent. was due to immigration and 83 per cent. to the excess of births over deaths. There were 233,233 children on the rolls of the state schools in 1899 and 149,439 in average attendance, with 60,159 in private schools. There were 449 Chinamen who left the colony in 1899 and only 36 arrived. The total number of immigrants was 77,634, and of emigrants 70,220. The population of Sydney, the capital, was esti-

mated in 1899 at 438,300. The total population of New South Wales in 1901 was 1,362,232.

The census of 1901 showed the population of Victoria to be 1,195,874. The urban population in 1899 was 56 per cent. of the total population, Melbourne, the capital, having 477,190 inhabitants in 1899, Ballarat 46,410, Bendigo 43,112, and Geelong 23,440. The population of Melbourne in 1901 was 493,956. The increase in the four towns in ten years was 12,303, and in the rural districts 43,166. The census of 1901 showed an increase in the population of the colony of only 55,469 in ten years, and this was almost entirely in females. The natural increase since 1891 was 180,000, showing that 125,000 persons had left the colony. The number of immigrants by sea in 1899 was 85,384, and of emigrants 86,948. Education is compulsory between the ages of six and thirteen, and in 1899 there were 1,892 state schools, with 4,808 teachers and 143,844 pupils in average attendance, being 60 per cent. of the number enrolled.

The census of 1901 made the population of Queensland 502,892. The population of Brisbane, the capital of Queensland, was estimated at the end of 1899 at 121,262, including suburbs, and there were 7 smaller towns with between 14,000 and 26,000 inhabitants. The number of immigrants in 1899 was 39,916, including 979 Chinese and 1,537 Pacific islanders; emigrants, 33,590, including 836 Chinese and 968 Pacific islanders. There were 888 elementary schools in the colony at the end of 1899, with 2,012 teachers and an average attendance of 63,133 pupils, while 11,389 attended 166 private schools.

Adelaide, the capital of South Australia, had 148,644 inhabitants at the end of 1899. The number of immigrants in 1899 was 33,634, and of emigrants 32,042. The census of 1901 showed an increase of 13 per cent. in population in ten years, compared with 14 per cent. in the previous decade. The urban population increased 22 per cent. and the rural population 7 per cent., reversing the process of the previous decade, in which the urban population decreased 6 per cent., while the rural population increased 7 per cent. Public lands are reserved to afford educational funds. In 1899 there were 284 regular and 393 provisional schools, and the number of scholars was 68,329.

The immigration into Tasmania in 1899 was 24,959, and emigration 20,805. The movement was mainly between Victoria and Tasmania.

The population of Western Australia on June 30, 1900, was estimated at 178,196, consisting of 116,401 males and 61,795 females. Perth, the capital, had 34,610 inhabitants, and Fremantle had about 16,000, which was more than the entire colony had in 1859, thirty years after its first settlement. The influx of gold-seekers from the other colonies and from over the sea has ceased. In 1899 there were 20,278 arrivals and 20,225 departures. The average school attendance in 1899 was 12,465 in 205 Government schools and 4,359 in 83 private schools.

The movement of population in the several states for 1899 was as follows:

COLONIES.	Marriages.	Births.	Deaths.	Excess of births.	Net immigration.
New South Wales..	9,275	34,461	15,901	20,560	7,414
Victoria	8,140	31,008	16,578	14,430	*1,564
Queensland.....	3,449	13,899	6,144	7,755	6,326
South Australia..	2,265	9,397	4,406	4,991	1,592
Western Australia.	.....	5,174	2,324	2,850	53
Tasmania.....	1,147	4,674	2,214	2,470	4,154

* Net emigration.

Finances.—The revenue of the several Original States for 1899, their expenditure, and the state

of their debts on June 30, 1900, in New South Wales, Victoria, Queensland, South Australia, on June 30, 1899, in Western Australia, and on March 31, 1899, in Tasmania are shown in the following table:

COLONIES.	Revenue.	Expenditure.	Debt.
New South Wales.....	£9,973,736	£9,811,402	£65,332,993
Victoria.....	7,463,117	7,331,386	48,774,885
Queensland.....	4,588,207	4,540,418	34,348,414
South Australia.....	2,780,858	2,779,317	26,156,180
Western Australia.....	2,633,081	2,396,448	11,804,178
Tasmania.....	943,970	871,453	8,395,639

Of the revenue of New South Wales £2,617,313 were derived from taxation, £2,108,433 from lands, £5,031,709 from services, and £216,281 from other sources. Of the expenditure £2,049,220 were expended on railroads and tramways, £754,527 on the post-office and telegraphs, £2,310,271 to pay interest on the public debt, £27 for immigration, £726,498 for public instruction, and £3,970,859 for other public works and services. The average rate of interest on the public debt is 3.63 per cent., and since four-fifths of the debt was contracted for railroads, tramroads, telegraphs, water-works, and sewerage, which yielded a net return of 3.45 per cent., four-fifths of the interest on the whole public debt was earned by these public works, on which the capital expenditure had been £64,371,745, viz., £42,084,214 for railroads and tramroads, £1,127,740 for telegraphs and telephones, £9,327,913 for water-supply and sewerage, and £11,831,878 for other works. The public wealth at the end of 1898 was estimated at £169,705,000 and private wealth at £378,116,000; total, £547,821,000. The revenue for the year ending June 30, 1901, was £10,794,233.

The revenue collected in Victoria in 1899 was £7,396,944, of which £1,952,453 were derived from customs, £315,721 from excise, £108,745 from the land tax, £305,762 from the duties on estates of deceased persons, £17,735 from the duty on bank-notes, £162,500 from the stamp duty, £40,735 from tonnage and navigation dues, £182,154 from the income tax, £2,849,370 from railroads, £553,672 from posts and telegraphs, £408,652 from public lands, and £499,445 from other sources. The amount raised by taxation was £3,085,805. The total expenditure was £7,014,706, of which £220,199 were general expenditures, £313,055 pensions, £1,879,148 debt charges, £1,703,196 expenses of the railroads, £262,025 expenses of other public works, £520,824 expenses of posts and telegraphs, £67,186 for public lands, £605,875 for public instruction, £332,558 for charitable institutions, £162,526 for courts of justice, £307,848 for police and jails, £96,092 for customs and harbors, £137,524 for mining and agriculture, £197,585 for defense, and £209,065 for other purposes. The revenue of Victoria for the year ending June 30, 1901, was £8,087,264. Of the public debt of Victoria £37,210,611 were borrowed for railroads, £7,670,807 for water-works, £1,111,477 for school buildings, and £2,361,382 for other public works. The average rate of interest is 3.83 per cent. The local debts amount to £8,474,471.

Of the revenue of Queensland £1,461,690 came from customs, £148,423 from excise and export duties, £245,426 from stamps, £62,698 from licenses, £66,477 from the duty on dividends, £323,622 from pastoral leases, £295,121 from other rent and sales of land, £1,422,852 from railroads, and £309,471 from posts and telegraphs. Of the expenditures £1,339,149 went for interest on the debt, £103,935 for endowments to muni-

cipalities and divisions, £286,229 for public instruction, £168,157 for the Colonial Treasurer's department, £96,123 for public lands, £67,116 for agriculture, £947,191 for railroads, and £362,908 for posts and telegraphs. The expenditure out of loans was £1,182,668, of which £637,675 were for railroads, £40,459 for telegraphs, £57,222 for rivers and harbors, £266,710 for loans to local bodies, £54,490 for public buildings, and £18,511 for advances to sugar planters. The revenue for 1901 was estimated at £4,594,370, and expenditure at £4,571,738. The actual revenue was £4,327,300, and expenditure £4,571,600.

The revenue of South Australia is derived mainly from customs duties, internal revenue, railroads, posts, and telegraphs, and lands, and the main expenditure is for railroads and public works and interest on the debt, only about 10 per cent. being required for civil administration, justice, police, and defense. Over half the debt was contracted for the construction of railroads, water-works, and telegraphs. In the year ending June 30, 1901, the revenue of South Australia was £2,818,712.

In Western Australia £872,300, about a third of the total revenue, was derived from import duties, and the remainder from railroads, the postal service, mines, and leases of public lands. The interest on the public debt amounts to £439,825 and the sinking-fund to £377,161.

Of the revenue of Tasmania 58 per cent. is derived from customs duties and taxation, 32 per cent. from the railroad, postal, telegraph, and other services, and most of the remainder from rent and sale of public lands. Of the expenditure 36 per cent. goes for interest, 35 per cent. for public works, 10 per cent. for law and justice, 8 per cent. for general purposes, 6 per cent. for charitable institutions, and 5 per cent. for education and religion. A part of the territorial revenue is applied to the reduction of the debt. The revenue for 1900 was estimated at £1,040,107, and expenditure at £926,364. The earlier loans, obtained solely for the construction of public works, pay 4 per cent. interest. The latest loan bears 3½ per cent. interest nominally, and taking account of expenses and commissions the net rate is 3.62 per cent.

Commerce and Production.—The value of the foreign trade of the several states for 1899 is given in the following table:

COLONIES.	Imports.	Exports.
New South Wales.....	£25,594,315	£28,445,466
Victoria.....	17,952,894	18,567,780
Queensland.....	6,764,097	11,942,858
South Australia.....	6,884,368	8,388,396
Western Australia.....	4,473,532	6,985,642
Tasmania.....	1,769,324	2,577,475

The exports from the Australasian colonies, including New Zealand, which rose in value from £78,453,000 in 1898 to £88,845,000 in 1899, fell to £85,394,000 in 1900, the decrease being due to the fall in the value of the wool exports, which declined in value £6,465,000, while gold increased £1,218,000 and all other exports £1,218,000. The total value of imports increased from £68,537,000 in 1898 to £72,178,000 in 1899 and £79,631,000 in 1900.

Of the total area of New South Wales only 2,440,968 acres were cropped in 1900. About a fourth of the total area is covered with forests. The Government had alienated 46,856,577 acres and leased 128,034,958 acres. Land can be obtained by conditional purchase or on a conditional lease with the privilege of purchase, at the fixed price of £1 an acre for not less than 40 or more

than 640 acres in the eastern and for a maximum of 2,560 acres in the central division; or in the central division 1,280 acres may be taken as a homestead selection, or 10,240 acres of grazing land as a settlement lease on payment of annual rent and on condition of continuous residence, without which condition the price is £2 an acre for the maximum of 320 acres. Special areas may be reserved by the Government in any one of the three divisions, to be sold for a minimum price of £1 10s. for the maximum of 320 acres in the eastern division, and 640 acres in the central and western divisions; and town and suburban lots may be sold at auction with an upset price of £8 for the former and £2 10s. for the latter. In the western division the Government may lease land for pastoral purposes under various forms and conditions. The production of wheat in New South Wales in 1900 was 13,604,166 bushels; of corn, 5,976,022 bushels; of tobacco, 6,641 hundredweight; of sugar-cane, 170,509 tons; of wine, 739,668 gallons; of brandy, 9,624 gallons; of oranges and other fruit, 3,652 tons. There were 36,213,514 sheep, 1,967,081 cattle, 482,200 horses, and 239,973 pigs on Jan. 1, 1900. The Government timber reserves have an area of 5,946,355 acres. The quantity of timber sawn in 1897 was 175,168,000 square feet. The production of gold in 1899 was 496,196 ounces, value £1,751,815, making a total of £47,546,013 since the opening of the first mines in 1851. The quantity of native silver obtained in 1899 was 692,036 ounces, value £76,913; of silver-lead ore and metal, 444,627 tons, value £1,993,744; the value of copper, £395,451. From its discovery in 1858 there was £5,019,480 worth of copper produced, and since tin was found in 1872 the production of this metal had a value of £6,382,538. The number of persons employed in 1899 in smelting silver, tin, and copper ores in 42 furnaces was 46,159, and in manufactures 55,646 were employed. The coal raised in 1899 was 4,597,028 tons, of the value of £1,325,799.

The exports of home produce from New South Wales in 1899 were £19,221,854, and of foreign produce £9,223,612. The quantity of wool exported was 240,019,494 pounds, valued at £11,738,607. The value of tallow exported was £510,861; of hides and skins, £1,035,905; of leather, £439,429; of preserved and frozen meat, £588,935; of coal, £1,005,794; of gold coin, £3,489,286. The imports from other Australasian colonies in 1899 were £12,113,402; from Great Britain, £8,211,351; from other British possessions, £929,780; from the United States, £2,219,319; from other countries, £2,120,463; exports to Australasian colonies, £9,524,267; to Great Britain, £8,992,480; to other British possessions, £1,451,671; to the United States, £2,392,281; to other countries, £6,084,767. The overland imports were £3,464,320, and overland exports £4,961,495 in value. The mineral resources of New South Wales include coal, of which 5,507,497 tons were raised in 1900. Coal is exported to the other colonies, and was to Asia before the development of the Indian and Japanese mines.

The area under crops in Victoria in 1900 was 3,820,000 acres, producing 15,238,000 bushels of wheat, 6,116,000 bushels of oats, and 1,466,000 bushels of barley. There were 854,500 ounces of gold raised in 1899, valued at £3,418,000, the total value previously obtained since 1851 having been £250,738,820. There were 30,640 miners employed in the gold-fields and 60,070 operatives in the factories. The value of wool imported in 1899 was £2,351,059; of woollen manufactures, £609,689; of cotton manufactures, £985,931; of sugar and

molasses, £683,711; of live stock, £787,216; of iron and steel, £843,509; of timber, £441,298; of tea, £335,942; of hides and skins, £335,889; of silk manufactures, £334,637; of coal, £276,137; of oils, £245,152; of all other articles, £9,739,714. The exports of gold were £4,386,719; of wool, £5,701,410; of grain and flour, £1,643,463; of butter, £1,404,830; of frozen meat, £368,262; of hides and skins, £505,167; of leather and harness, £331,157; of live animals, £352,137; of sugar and molasses, £154,970; of clothing, £149,800; of tallow, £141,334; of reexport of tea, £160,939; all other exports, £3,267,602. Of the total imports of Victoria in 1899 the United Kingdom furnished the value of £5,990,027; Australasian colonies, £8,440,458; India, £340,435; Ceylon, £159,728; Canada, £19,378; other British possessions, £216,314; the United States, £883,472; Germany, £578,298; France, £199,849; Belgium, £122,236; Sweden and Norway, £107,833; Java and the Philippine Islands, £59,116; China, £56,844; all other countries, £159,646. Of the total exports the United Kingdom received £51,648,150; Australasian colonies, £5,209,300; India, £2,459,506; Ceylon, £109,298; Canada, £45; other British possessions, £1,431,166; France, £1,482,637; Germany, £767,537; Belgium, £612,569; the United States £235,021; Java and the Philippine Islands, £14,315; China, £481; other foreign countries, £597,764. The quantity of wool exported in 1899 was 121,877,604 pounds, nearly half of which came from other colonies. Victoria contains large lignite and coal deposits which have begun to be available recently through the extension of the railroads. The output of 250,000 tons in 1900 can be increased to any extent. The kinds of Australian coal discovered down to the present have not been of high quality, but in 1901 the Government geologist of Queensland reported the discovery of enormous beds of anthracite that are equal to the best quality of steam coal found anywhere. Of the imports into Queensland in 1899 the value of £2,905,437 came from Great Britain, £2,997,883 from Australasian colonies, £198,880 from other British possessions, £332,346 from the United States, and £329,551 from other countries. Of the exports £4,272,952 went to Great Britain, £7,027,367 to Australasian colonies, £222,301 to other British possessions, and £420,238 to foreign countries. The export of gold was £2,613,511 in value; of copper, £22,551; of silver, £46,552; of wool, £3,390,779; of sugar, £1,163,010; of hides and skins, £700,303; of tin, £80,959; of frozen meat, £851,635; of salted and preserved meat, £427,108; of meat extract, £215,209; of tallow, £468,829; of green fruit, £93,291; of pearl shells, £137,873. The imports of woven goods and clothing were £1,549,251 in value; of metal goods and metals, £956,916.

In South Australia less than 1½ per cent. of the land has been sold by the Government, but 11 per cent. has been leased to 538 tenants for pastoral purposes. The cultivated area in 1900 was 3,081,846 acres, of which 1,821,137 acres were under wheat and 34,915 acres were in orchards and vineyards. The yield of wheat in 1899 was 8,453,135 bushels; of wine, 1,080,772 gallons, 504,065 of which were exported. The number of horses in 1899 was 168,695; of cattle, 275,794; of sheep, 5,667,283. The value of mineral products exported was £453,020. The export of copper ore was £24,682; of copper, £406,208; of wool, £1,511,693; of wheat, £422,439; of wheat flour, £338,820. Of the total imports £2,040,430 came from Great Britain, £3,839,330 from Australian colonies, £217,055 from other British possessions, £364,801 from the United States, and £422,742 from

other countries. Of the total exports £2,805,787 went to Great Britain, £3,637,878 to Australian colonies, £517,823 to other British possessions, £247 to the United States, and £1,426,661 to foreign countries. The wheat crop of 1901 was 11,263,143 bushels, an increase of about 3,000,000 bushels in the yield of 1900.

In Western Australia there were 186,396 acres under crops in 1899, less than a three-thousandth part of the surface of the colony, but still showing a rapid increase in agriculture. Wheat and hay are the main crops. The area already sold to settlers was 6,478,949 acres. There were 2,609 leases of gold-mines, which gave employment to 16,080 men, while 4,920 were employed in washing gold. The gold production for 1899 was 1,643,877 ounces, valued at £6,246,732. The production of 27 copper-mines was 1,991 tons, valued at £41,452; of 103 tin-mines, 308 tons, valued at £23,163. There were 23 leases of lead and copper-mines and 71 leases of coal-mines. The export of gold in 1899 was 1,434,570 ounces, valued at £5,451,368. In the northern and northeastern parts of the colony are about 20,000,000 acres of good grazing lands along the stream beds. The live stock on Jan. 1, 1900, consisted of 65,817 horses, 296,267 cattle, and 2,273,246 sheep. The export of pearl shell in 1899 was £90,647 in value; of pearls, about £20,000; of sandalwood, £29,719; of timber, £553,198; of wool, £423,296; of skins, £61,998. Of the total imports Great Britain supplied the value of £1,550,029, Australasian colonies £2,312,357, other British possessions £163,190, the United States £203,777, other countries £244,179. Of the exports Great Britain took £3,774,247, Australasian colonies £2,937,574, other British possessions £191,554, the United States £78, and other countries £82,189. Western Australia is the source of the most valuable of the hardwoods that are used for submarine construction, street pavements, etc. The jarrah and karri woods are regarded as unrivalled for piles, bridges, and railroad ties, and streets paved with jarrah have stood heavy traffic for many years. Karri, though less durable under water and not so easily wrought, is more valuable for bridges and floors, and equally good for street blocks. Efforts have been made to have these woods and the various kinds of eucalyptus and other woods found in the virgin forests of this and other colonies adopted in Great Britain for street pavements and various structural purposes instead of timber imported from America.

Over one-fourth of the area of Tasmania has been sold or granted to settlers. There were 225,126 acres under farm crops in 1900, while 288,777 acres were sown to grass and 13,172 acres were orchard. The yield of wheat was 1,101,303 bushels; of oats, 1,148,160 bushels; of hay, 51,123 tons; of hops, 589,793 pounds. The exportation of apples and other fruits is very large. The live stock in 1900 comprised 31,189 horses, 160,204 cattle, 1,672,068 sheep, and 74,451 pigs. The colony contains rich deposits of tin, copper, galena, and iron ores, and coal. The alluvial deposits of gold have been worked out, but there are gold-mines, producing the value of £205,936 in 1899, when the silver export was £208,869 and that of copper ore £761,880. The quantity of silver and copper ores raised was 417,866 tons, valued at £1,633,724. The value of the tin export in 1899 was £281,947, making a total of £6,961,249 exported from the beginning of mining. The production of the coal-mines was 43,113 tons, value £17,008. The export of wool in 1899 was £357,757 in value; of silver and silver ore, £208,869; of timber and bark, £70,584; of hops,

£13,555; of fruit, fresh and preserved, £244,143. The imports of textiles were valued at £380,175; hardware, £106,353; sugar, £104,490; machinery, £98,720. Of the total imports the value of £501,120 came from Great Britain, £799,907 from Victoria, £275,414 from New South Wales, £158,099 from other British colonies, and £50,405 from foreign countries. Of the total value of exports £1,039,640 went to Great Britain, £391,602 to Victoria, £701,524 to New South Wales, £117,232 to other British colonies, and £327,477 to foreign countries.

Navigation.—The number of vessels entered at the ports of New South Wales during 1899 was 3,219, of 3,468,591 tons, of which 2,908, of 2,977,097 tons, were British or colonial and 311, of 491,494 tons, were foreign; cleared, 3,199, of 3,526,960 tons, of which 2,877, of 3,036,277 tons, were British or colonial and 322, of 490,683 tons, were foreign. The merchant fleet of the colony consisted on June 30, 1899, of 502 sailing vessels, of 55,554 tons, and 498 steamers, of 67,193 tons.

The number of vessels entered at Victorian ports was 2,024, of 2,662,792 tons, of which 393, of 1,009,272 tons, were British, and 1,321, of 1,218,480 tons, were colonial; cleared, 2,031, of 2,678,663 tons, of which 411, of 1,063,142 tons, were British, and 1,284, of 1,079,507 tons, were colonial. The merchant shipping comprised 233 sailing vessels, of 37,837 tons, and 148 steamers, of 60,964 tons.

At the ports of Queensland 662 vessels in the foreign trade, of 730,450 tons, were entered and 630, of 733,613 tons, were cleared during 1899. In the coasting trade 6,692 vessels, of 3,896,597 tons, were entered and 6,588, of 3,527,266 tons, were cleared. The shipping of the colony consisted of 144 sailing vessels, of 9,928 tons, and 90 steamers, of 12,867 tons.

There were 1,020 vessels, of 1,708,556 tons, entered and 1,025, of 1,720,810 tons, cleared at South Australian ports during 1899. The merchant shipping of the colony consisted of 227 sailing vessels, of 22,421 tons, and 108 steamers, of 28,445 tons.

At West Australian ports 685 vessels, of 1,333,052 tons, were entered in 1899, and 668, of 1,305,596 tons, were cleared. The colonial shipping consisted of 135 sailing vessels, of 6,653 tons, and 30 steamers, of 5,442 tons.

The number of vessels entered in Tasmania during 1899 was 797, of 662,757 tons; cleared, 755, of 655,358 tons. The shipping belonging to the colony consisted of 156 sailing vessels, of 8,894 tons, and 44 steamers, of 6,485 tons.

Railroads, Posts, and Telegraphs.—The railroads of New South Wales on June 30, 1900, had a total length of 2,896 miles, of which 2,811 were built by the Government at a cost of £38,477,269. The gross receipts in 1900 were £3,163,572; working expenses, £1,769,520, being 55.93 per cent. of the receipts. The Government tramways had a length of 71 miles, built at a cost of £1,924,720, and earning £409,724 in the year, less £341,127 for working expenses.

The state railroads of Victoria had a total length on June 30, 1899, of 3,160 miles, built at a cost of £38,974,410, of which £2,908,121 was provided out of the revenue and the rest was borrowed. The gross receipts in 1899 were £2,873,729, and expenses were £1,797,726, being 62.6 per cent. of the receipts. The net income was equal to 2.77 per cent. of the cost of construction, or 2.98 per cent. of the borrowed capital, on which the average rate of interest is 3.8 per cent. There were 45,805,043 passengers and 2,779,748 tons of freight carried in 1899.

There were 2,800 miles of railroads in operation

in Queensland at the beginning of 1900, nearly all the property of the Government, which had expended £19,110,725 in their construction. The gross earnings in 1900 were £1,373,076, and the operating expenses £844,101.

The railroads of South Australia at the end of 1899 had a total length of 1,883 miles, including 146 miles in the Northern Territory.

There were 1,850 miles of railroads in operation in Western Australia on June 30, 1900, including 495 miles of private railroads.

The railroads of Tasmania had a length of 547 miles in 1899.

The postal traffic of New South Wales in 1899 was 75,318,608 letters, 1,408,140 postal cards, 46,806,560 newspapers, 13,986,590 packets and book parcels, 654,474 parcels, 421,085 money-orders, for £1,436,927, and postal notes for £449,948.

The postal revenue of Victoria, including receipts from telegraphs and telephones, was £555,650, and expenses were £491,686.

The Queensland post-office handled 21,181,287 letters, 11,633,266 papers, 5,779,013 packets, and 268,895 parcels in 1899; revenue, £200,726.

The number of letters that passed through the post-office in South Australia was 19,765,396 in 1899; packets, 1,531,400; newspapers, 8,937,040.

In Western Australia 12,629,554 letters, 343,999 postal cards, 6,287,018 papers, and 3,015,995 packets were sent through the post-office in 1899. The postal and telegraph expenses were £230,700.

The postal traffic of Tasmania in 1899 was 9,748,055 letters, 1,811,344 packets, 6,293,018 papers, and 288,558 postal cards; receipts, £78,055; expenses of posts and telegraphs, £78,094.

The telegraphs of New South Wales on Jan. 1, 1900, had a length of 13,663 miles, with 35,630 miles of wire, constructed at a cost of £1,051,987. The number of messages in 1899 was 3,112,063; gross receipts, £475,438; net revenue, £168,758.

The length of telegraph lines in Victoria on June 30, 1899, was 6,747 miles, with 15,125 miles of wire. The number of messages in 1898 was 1,889,488. There were 13,591 miles of telephone wire.

The telegraph lines of Queensland at the close of 1899 had a length of 10,202 miles, with 18,968 miles of wire. The number of despatches sent during the year was 1,208,489, and 201,562 external despatches were received; receipts, £98,074; expenses of telegraphs and post-office, £347,713.

The South Australian telegraph lines had a length of 5,691 miles in 1899, including telephones, with 16,937 miles of wire.

The telegraphs of Western Australia had a length of 5,941 miles, with 8,749 miles of wire, on Jan. 1, 1900. The number of messages in 1899 was 1,136,513; net receipts, £79,716.

The telegraphs of Tasmania had in 1900 a length of 2,004 miles, with 3,252 miles of wire, including 428 miles of cable; number of messages, 250,958; length of telephones, 815 miles; total receipts, £23,897.

Defense.—The military forces in the colonies in 1899 numbered 31,861 men of all ranks, including 1,859 British regulars, 12,447 militia, and 17,555 volunteers and reserves. In New South Wales there were 835 regulars, 4,395 militia, and 4,756 volunteers and reserves; in Victoria, 393 regulars, 3,404 militia, and 2,102 volunteers and reserves; in Queensland, 287 regulars, 2,999 militia, and 7,417 volunteers and reserves; in South Australia, 30 regulars, 700 militia, and 661 volunteers and reserves; in Western Australia, 35 regulars and 730 militia; in Tasmania, 29 regulars, 219 militia, and 1,788 volunteers and reserves; in New Zea-

land, 250 regulars and 4,117 volunteers and reserves. Sir John Forrest, in June, 1901, reported the defense forces of Australia at 61,233 men and 15,000 cadets.

The sum appropriated for defense in New South Wales in 1900 was £280,058, including £31,897 of permanent expenditure from loans, but excluding £158,748 for the military contingent in South Africa. Victoria spent £197,585 in 1899; Queensland, £36,065 in 1900; Western Australia, £22,789 in 1899; Tasmania, £13,394. The contingents furnished by the Australasian colonies to aid Great Britain in the Boer war had a total strength of 8,360 men. New South Wales sent 1,378 regulars and 1,280 bushmen, with 2,546 horses; Victoria, 521 regulars and 905 bushmen, with 1,608 horses; Queensland, 417 regulars and 707 bushmen, with 1,361 horses; South Australia, 245 regulars and 330 bushmen, with 548 horses; Western Australia, 233 regulars and 243 bushmen, with 522 horses; Tasmania, 127 regulars and 188 bushmen, with 192 horses; New Zealand, 1,274 regulars and 523 bushmen, with 2,660 horses. In the Chinese operations there participated 260 men from New South Wales and 200 from Victoria and a gunboat from South Australia.

The naval force in the colonies of Australasia in 1900 consisted of 5 deck-protected cruisers and 2 torpedo gunboats of the royal navy, 2 of the cruisers being in reserve; 1 old monitor, 5 torpedo-boats, and two unarmored gunboats belonging to Victoria; 2 torpedo-boats in New South Wales; 1 cruiser and 1 auxiliary steamer in South Australia; 1 gunboat in Western Australia; 2 gunboats and 2 destroyers in Queensland; 1 torpedo-boat in Tasmania; and 4 torpedo-boats and 4 auxiliary steamers in New Zealand. The crews in New South Wales numbered 579; in Victoria, 309; in Queensland, 740; in South Australia, 162; in Tasmania, 39; in New Zealand, 1,004; total, 2,833 men. The British squadron on the Australian station, with headquarters at Sydney, numbered 9 vessels. A fleet of 5 fast cruisers of 2,575 tons displacement—the Katoomba, Tauranga, Ringarooma, Mildura, and Wallaroo—and 2 torpedo gunboats of 735 tons—the Boomerang and Karakatta—was equipped for service in the Australian seas under an agreement made with the Imperial Government in 1887, according to which the colonies which entered into the arrangement pay 5 per cent. interest on the cost of the vessels and the expenses of maintenance, the latter not to exceed £91,000 a year. The charge on the colonies in 1900 was £126,000, of which New South Wales contributed £38,130, Victoria £32,699, Queensland £13,559, South Australia £10,419, Western Australia £4,807, Tasmania £5,124, and New Zealand £21,262. These vessels are now obsolete, and some new arrangement will be made with the commonwealth. The cost of additional naval forces in 1900 was £95,300, of which £60,300 came from the imperial exchequer. Fortifications have been erected by the colonies to protect their principal harbors, and all have shared in the expense of building naval strongholds at King George Sound and Thursday island. Rear-Admiral Beaumont, commander-in-chief of the British fleet on the Australian station, advised the Commonwealth Government against the creation of naval reserves, considering the system by which the Imperial Government provides ships and men to be more effective and economical. Two first-class and 4 second-class cruisers, with 2 cruisers in reserve, are the force recommended to be maintained by the Federal Government.

The Federal Parliament.—The Earl of Hopton, Dec. 19, 1900, a few days after his arrival,

sent for the Premier of New South Wales, and commissioned him to form the first Federal ministry. Sir William J. Lyne, whose selection astonished and displeased the people of his own and of the other colonies because he had been the chief opponent of federation in the form that was adopted, and who had been chosen simply as a matter of constitutional usage and official eti-

tariff, in which revenue would be the secondary consideration, and the first would be to secure Australian manufacturers from the competition of imported goods. The ministers were all protectionists in their antecedents, but they indicated in their speeches that the Government would favor the intermediate policy of a low revenue-producing tariff, with reasonable protection for

certain selected industries that could not be continued without such aid. The electors were divided into low - tariffists and high - tariffists, two parties only. In the result 21 Senators and 35 Representatives were elected who favored low tariff, and 15 Senators and 40 Representatives who had declared themselves for high tariff. The Prime Minister, leader of the high - tariff party, claimed a working majority over the low - tariffists, whose leader was G. H. Reid, chief of the free-traders of New South Wales, his own state, who won over him a victory in the elections, which was less disconcerting and less dangerous to the compromise that he hoped to effect in tar-



THE GENERAL POST-OFFICE, MELBOURNE.

quette, being the actual Premier of the senior colony, returned his commission on Dec. 22, on the ground that he could not form an acceptable ministry that would be sufficiently representative of Australia, and advised the Governor-General to send for Mr. Barton, who was the acknowledged leader of the federation movement. This he did, and Mr. Barton promptly undertook the task. The State Premiers and ex-Premiers whom Sir William Lyne had asked to join the Cabinet refused to accept his leadership, demanding that Mr. Barton should form the ministry. They willingly accepted office under the latter, although he had never been a Premier. The commonwealth was inaugurated with ceremony at Sydney on Jan. 1, 1901. The death of Sir James Dickson, the first Postmaster-General, left a vacancy that was filled on Jan. 25, 1901, by the appointment of James G. Drake, of Queensland. The postal, telegraph, and telephone services of the states were transferred to the commonwealth on March 1. The elections to the Senate and House of Representatives of the first Federal Parliament were held on March 29 in New South Wales, Victoria, Tasmania, and Western Australia, and on March 30 in South Australia and Queensland. The electoral campaign was earnestly contested on the question of the tariff. There were three fiscal policies presented to the electors: tariff for revenue purposes only, or free trade, on the English model; low tariff, or a scale of duties adapted to produce the greatest amount of revenue, except in the case of industries that had been created and fostered by high protective duties, as in Victoria, which should enjoy such moderate protection as would preserve them from extinction; and high

iff legislation than the greater victory of his troublesome allies, the extreme protectionists of Victoria. In Queensland the election hinged less on the tariff than on the question of the abolition of Kanaka contract labor, which Mr. Barton had raised incautiously by declaring for a white Australia. The Labor party of Queensland, which asserts that sugar can be cultivated with white labor, took up the cry and won a victory at the polls for protection against black labor as well as for high tariff, although Mr. Barton had tempered his first declarations by saying that the abolition of Kanaka labor should only be accomplished gradually, out of consideration for the great interests involved. The Labor party in the various states was represented in the Federal Parliament by 8 Senators and 16 Representatives. The states elected the Senators by the block system, every voter being required to vote on one ticket for 6 separate candidates in the field. By this system a party controlling a majority of the voters in any state, such as the Labor party of Victoria, has the power of naming the entire representation of the state in the Senate. This was not done in any instance. Queensland, by a special provision of the Constitution act, had the right to make laws dividing the state into senatorial divisions, but did not avail itself of the privilege. The Constitution allows states to vote for Representatives on a single ticket, and this course was taken by Tasmania and South Australia, while the other states were divided into electoral districts. Tasmania adopted in both senatorial elections and those for members of the House of Representatives the Hare system of proportional representation

which was already in force in local elections. At the first meeting of the Federal Cabinet, on April 11, the suggestion of Mr. Chamberlain that Boer prisoners should be sent to Tasmania was rejected.

The first Australian Parliament was declared open at Melbourne on May 9 by the Duke of Cornwall, who was present as the King's High Commissioner. The Governor-General on May 10 outlined the proposed legislation. Parliament had to constitute a high court with extensive appellate jurisdiction; to create an interstate commission for regulating affairs between the states relating to trade and commerce, and especially in relation to railroads, with wide powers of judicial administration, so as to secure the interests of each state consistent with those of the commonwealth; and to pass a public service bill. The Government was taking steps to secure territory for the Federal capital in a location that was suitable in climate, accessibility, and natural beauty. Among the measures to be brought before Parliament were bills for restricting Asiatic immigration, for the diminution and gradual abolition of the introduction of labor from the South Sea islands, for conciliation and arbitration in cases of industrial disputes extending beyond the limits of any one state, for uniformity in the patent laws, and for granting a uniform franchise in all Federal elections by the adoption of adult suffrage. The question of old-age pensions would have to be postponed in view of present financial conditions. Subjects requiring legislation were banking, Federal elections, navigation, shipping, and quarantine. Consideration was being given to the best means of taking over, converting, renewing, and consolidating the public debts of the states. Regarding the tariff, the ministers considered inadmissible any policy tending to destroy the industries which the existing state tariffs had established, and that a tariff giving fair consideration to this factor must necessarily operate protectively as well as for the production of revenue. In regard to the relations of the commonwealth with the islands of the Pacific, the ministers had taken such steps as seemed prudent without embarrassing the international relations of the Imperial Government. A railroad connecting the eastern states with Western Australia was being studied, and it was hoped that the project was feasible. A railroad to the north would also become a matter of importance, and a proposal made by the Government of South Australia for the surrender of the Northern Territory was under consideration. Steps would be taken as soon as practicable for the judicious strengthening of the defenses of the commonwealth, with the avoidance of extravagant expenditure and the fullest reasonable reliance upon the citizen soldiery. The services of an able and distinguished officer would be secured for the supreme command. Postal and telegraph rates would shortly be assimilated, and as soon as financial conditions permitted, universal penny postage would be introduced. Interstate free trade would be established simultaneously with the imposition of the Federal tariff. In the debate on the address the Queensland members brought up the question of colored labor, and their amendment requiring the immediate stoppage of the importation of Kanakas was rejected. There were about 9,000 of these Polynesians in the commonwealth, all employed on the sugar plantations. The question of excluding such laborers not only affected the important sugar industry, but was complicated with that of the relations of Australia to the islands of the Pacific. Some members recommended that Australia should declare

an exclusive interest in all islands within 1,000 miles, but the Prime Minister deprecated discussion that might embarrass the policy of the Imperial Government. The colonies were agreed as to the policy of restricting Chinese immigration. Some advocates of a white man's Australia would like to send away the 38,000 Chinese already settled in Australia, although in many localities the disappearance of the Chinese market gardeners would inflict much inconvenience and temporary hardship. Of other colored races, except the aboriginals, estimated at 200,000, whom the state governments endeavored to protect and preserve from extinction, there were only a small number of Hindus and the Afghans who are employed in transporting goods by means of camels in the arid regions of the interior. A motion requiring vessels carrying mails to be manned by white crews was rejected by the Government as contrary to existing contracts, but Mr. Barton promised in making future contracts to submit them to Parliament. The Australian Government proposed to take over the administration of New Guinea, and, if possible, of the Solomon Islands also. The Government of Tasmania objected to the postal regulation bill introduced by Mr. Drake because it contained a clause excluding from the mails communications relating to racing lotteries, or sweepstakes, which are legal in that colony. The bill creating an interstate commission contained important provisions affecting the business of public carriers, shipping firms, and merchants, both local and foreign. Sir John Forrest's defense bill classified the entire male population in three divisions: eighteen to thirty years of age; thirty to forty-five years; and forty-five to sixty. Except in times of emergency the defense force will be kept up by voluntary enlistment. In case of emergency the Governor-General has power to call out any part of the defense force for service anywhere within the limits of the commonwealth. The permanent forces are liable in such times to serve outside of the commonwealth, but not the citizen forces unless they voluntarily agree to do so. The Federal customs regulation bill authorized the collection of duties on ships' stores consumed by passengers and crews between the first port of call in the commonwealth and the port of destination. Against this provision steamship companies protested, and appealed to the Imperial Government. Shipping representatives objected also to a clause involving ship-owners in responsibility after goods have been landed, and overriding the customary contracts with shippers expressed in bills of lading. The tariff bill elaborated by the Cabinet was expected to produce a revenue of £8,700,000 per annum.

A bill for the restriction of immigration contained an educational test, such as has been adopted in Natal and some other colonies. The requirement that every immigrant should write 50 English words was intended to keep out Asiatic immigrants. A proposal that immigrants from Germany, France, and other European countries be allowed to write in their own language was not acceptable, as it drew a distinction between European and Eastern people. The bill contained provisions against the entrance of idiots, insane persons, recently released criminals, persons likely to become paupers, and sufferers from infectious or contagious diseases. It provided for the removal from the commonwealth of immigrants of the prohibited classes, and the cancellation at any time of certificates of exemption. Masters or owners of vessels introducing prohibited immigrants are liable to a fine of £100. Labor members asked for a measure directed in plain

the colored races, including the Japanese, proposed a clause prohibiting the entry of persons from any part of the world who are under contract to labor in Australia. A committee was appointed to inquire into the advisability of the commonwealth's unifying its own coinage and adopting the decimal system. A divorce bill introduced first in the Senate brought the laws of all the states into harmony with the acts of Victoria and New South Wales, and extended domicile to the whole commonwealth. It prohibited collusion and restricted the causes of divorce allowed in some of the states.

The Federal Prime Minister, in spite of his disclaimer of any intention to complicate British international relations, countenanced the claims made by British missionaries on behalf of the natives of the New Hebrides who resisted the claims of French colonists to lands in the two central islands. The New Hebrides, by agreement between England and France, are neutral territory, and disputes between Europeans and natives are settled by a joint commission of naval officers, but not disputes about land. The Federal Government, almost as soon as it was constituted, telegraphed to Mr. Chamberlain a proposal that an international tribunal be created to deal with land disputes. The French Government, after the establishment of the commonwealth, created a naval station in the Pacific, strengthened the land defenses, and increased the naval force to 5 warships.

New South Wales.—The Parliament of New South Wales consists of a Legislative Council of 75 members appointed for life and a Legislative Assembly of 125 members elected in separate districts by universal suffrage. The Lieutenant-Governor is Sir F. M. Darley. The Cabinet in the beginning of 1901 was composed as follows: Premier and Colonial Treasurer, Sir William John Lyne; Chief Secretary, John See; Attorney-General, Bernhard Ringrose Wise; Secretary for Lands, Thomas Henry Hassall; Secretary for Public Works, Edward William O'Sullivan; Minister of Public Instruction and Industry and Labor, John Perry; Minister of Justice, William Herbert Wood; Postmaster-General, William Patrick Crick; Secretary for Mines and Agriculture, John Lionel Fegan; Vice-President of the Executive Council, Francis Bathurst Suttor.

The Legislative Assembly that had supported G. H. Reid gave Sir William Lyne a still stronger support. The Labor party swung round to the support of Mr. Reid's successor, and reaped its reward in the readiness of the Government to bring forward measures included in the Labor program. The most important one that became law is the old-age pensions act.

The arbitration bill passed the Assembly, but was rejected by the Legislative Council, contradictory accounts having been given of the operation of the New Zealand law after which it was modeled. The Government appointed a commission to visit New Zealand and to make an impartial inquiry, with the intention, should the verdict be favorable, of resubmitting the bill in the succeeding session. The city corporation of Sydney was reorganized by a measure providing for the election of an entire new council every year, whereas formerly the aldermen held office for three years, one-third retiring each year. The municipal franchise was enlarged at the same time by giving the right to vote to lodgers paying 10s. a week. In accordance with another act the city expropriated all the water frontage and a considerable area in the rear, besides a whole section in the oldest

part of the town that had gone to decay. It was decided by the Assembly that the land on the water-front should not be resold, but only leased for fifty years. A harbor trust was created. Sir W. J. Lyne, having accepted a post in the Federal ministry, resigned the state premiership on March 20. A new Cabinet was constituted on April 10 as follows: Premier and Colonial Secretary, John See; Attorney-General, B. R. Wise; Minister of Public Works, Edward William O'Sullivan; Minister of Education, John Perry; Secretary for Lands, Patrick Crick; Minister of the Treasury, Thomas Waddell; Secretary for Mines, John Kidd; Minister of Justice, Robert Fitzgerald; Vice-President of the Executive Council, F. B. Suttor. Mr. Hayes and Mr. Bennett were appointed members of the Cabinet without portfolios. Federal affairs withdrew from state politics G. H. Reid, who resigned the leadership of the Opposition. Mr. Fitzgerald, having been defeated at the polls, could not remain in the ministry, and his vacant office was amalgamated with that of the Attorney-General in pursuance of the policy of reducing the expenditure of the state in consequence of the establishment of federation. The state elections were held on July 3. The principal feature was the success of the Labor candidates, of whom 22 were elected, and 40 Ministerialists, 20 Independents, and 43 Opposition candidates, which gave the Government a large majority with the assistance of the Labor party. Parliament met on July 23. A bill reducing the number of members in the state Parliament was a corollary of federation. It was accompanied by a proposal for the election by a referendum of a convention to revise the Constitution. The bill for compulsory industrial arbitration was introduced once more. The bill establishing women's suffrage, which failed to pass the Legislative Council by a narrow majority in the previous session, was also brought in again. The land laws were amended by an act immediately throwing open lands suitable for settlement. Another act provides holdings for working men in the vicinity of Sydney and other populous centers. Steps were taken to bring state products prominently before the world's markets. The prosperity of the community seemed to be reviving in spite of a continued drought. The fiscal question, on which the politics of the colony had lately hinged, was now transferred to the domain of commonwealth politics. It was expected that the people of New South Wales would pay heavier taxes under the Federal system, and that the sum to be refunded to the state from the Federal treasury would amount to over £1,000,000, out of which the old-age pensions, estimated at £400,000 a year, could be paid without resorting to fresh legislation. Pensions for soldiers maimed in South Africa, and for the families of the killed, were provided for, and more liberal provision was made for normal schools and advanced technical education and for water conservation and light railways. The accounts for the year ending June 30, 1901, were closed with a deficit of only £87,000, notwithstanding the extraordinary expenditure of £681,500 for despatching contingents to South Africa and China, extinguishing of the plague, inaugurating the commonwealth, and entertaining the Duke of Cornwall. The Opposition, led by Mr. Lee, resisted a long prorogation prior to dissolution, and the ministry won on a trial of strength by 66 votes to 28.

Victoria.—The Legislative Council of Victoria has 48 members, elected for six years, and the Legislative Assembly has 95, elected for three

years, the former by qualified, the latter by universal suffrage. The Lieutenant-Governor is Sir John Madden. The Cabinet in 1900 contained the following members: Premier and Chief Secretary, A. McLean; Treasurer, W. Shields; Attorney-General, W. H. Irvine; Solicitor-General, J. M. Davies; Minister of Mines, Railways, and Irrigation, A. R. Outtrim; Minister of Agriculture and Public Works, G. Graham; Minister of Lands, J. H. McColl; Minister of Defense, D. Melville; Postmaster-General, W. A. Watt; Minister of Public Instruction and of Customs, C. C. Salmon; without portfolio, J. Balfour. The defeat of the ministry necessitated the appointment of a new Cabinet, which was finally

constructed after some changes were made on Feb. 7, 1901, as follows: Premier, Treasurer, and Minister of Labor, A. J. Peacock; Chief Secretary and Minister of Railways, W. A. Trenwith; Attorney-General, I. A. Isaacs; Minister of Agriculture, J. Morrissey; Postmaster-General and Minister of Public Instruction, S. W. Gurr; Minister of Lands, D. J. Duggan; Minister of Defense and Public Works, W. M. McCulloch; Solicitor-General, A. Wynne; Minister of Mines and Water-Supply, J. B. Burton; without portfolios, S. Gilliott, R. McGregor, E. J. Crooke, and P. Phillips. The Victorian Parliament was

opened on June 18. The legislation proposed by the ministers included the calling of a convention to frame amendments to the Constitution in regard to both Chambers of the Legislature and the submission of these amendments to the direct vote of the people. A bill to make the old-age pension scheme permanent provided for increased expenditure where necessary, while guarding the financial interests of the state. The old-age pensions authorized under the ministry of Sir George Turner, who agreed to the increase of the maximum weekly payment from 7s. to 10s., proved more costly than they were expected to be, the applicants numbering 16,000 instead of the estimated number of 6,000, because the act had not been framed so as to exclude persons who had been previously supported by their children. With average payments of 8s. a week the total annual cost was £330,000. The amended act corrected some of the defects of the provisional scheme. The maximum weekly pension was again fixed at 7s. A new education act extended the public-school system in accordance with the most modern views, especially in regard to technical instruction. It was intended to remodel the Agricultural Department, with the aim of making Victoria one of the foremost countries in the application of advanced principles and methods of working in the field of primary production, and a director of agriculture would be appointed to direct and supervise the department, and the official agency in London be made a useful business medium to assist in the utmost ex-

pansion. The Government established a dairy college. The railroad earnings having increased by over £250,000, the extension of railroads would be promoted so as to enable producers in remote districts to convey their commodities to market at a medium cost. Further works for the supply of water would be constructed, and the mines act would be amended with the object of extending coal-mining. A Government coal-mine was established to supply railroads and public departments. The policy of economy in state expenditures was to be continued. Bills were presented for the settlement of trade disputes by courts of conciliation and arbitration, for con-



SYDNEY, NEW SOUTH WALES.

solidating the land acts, for forest conservation, and for the prevention of the adulteration of food. Under the factories act wages were fixed by the boards in some trades at such high figures that the fellmongers in Melbourne decided in the summer of 1901 to close their works, and employers in other trades threatened to do the same, and called for a suspension of the factory act until the conditions under interstate free trade could be understood, as it was feared that when free trade came Victorian manufacturers could not compete with those of New South Wales and other states in which wages were lower and employers were less hampered by labor restrictions imposed by the Government and the trade-unions. The Premier refused to consider the suspension of the factories act, but delayed extending it to new trades. Col. Sir George Sydenham Clarke received the appointment of Governor of Victoria on Aug 8.

Queensland.—The Legislative Council is composed of 42 members, nominated for life; the Legislative Assembly of 72 members, elected for three years by universal suffrage. The Governor at the beginning of 1901 was Lord Lamington, appointed in 1895. The Cabinet was composed as follows: Prime Minister, Treasurer, and Secretary for Mines, Robert Philp; Chief Secretary, Sir J. R. Dickson; Attorney-General, A. Rutledge; Home Secretary, J. F. C. Foxton; Secretary for Agriculture, J. V. Chataway; Secretary for Public Instruction and Postmaster-General, J. G.

Drake; Secretary for Lands, W. B. H. O'Connell; Secretary for Railways and Public Works, John Murray; without portfolios, D. H. Dalrymple and George Wilkie Gray. On Jan. 29 Mr. Murray succeeded Mr. Drake as Postmaster-General and Secretary for Public Instruction, while Mr. Leahy took his place as Secretary for Railways and Public Works. Sir J. R. Dickson retired, having been called into the Federal Cabinet as Postmaster-General, and Mr. Philp succeeded the latter as Chief Secretary, transferring the office of Treasurer to T. B. Cribb. While the opponents of colored labor won the victory in the Federal elections, Mr. Chamberlain disallowed a bill passed by the Queensland Legislature in 1900 which contained a clause prohibiting the employment of Asiatics and other colored laborers in sugar-mills receiving financial assistance from the Government. The Labor party was not satisfied with the proposal of the Colonial Secretary that an educational test be applied, as in Natal, and was determined to pass the bill again and again until it should receive the royal assent. Queensland suffered in 1901 from a drought of unprecedented duration that affected the whole of the western country, causing great mortality among sheep. This caused a decrease in railroad and customs receipts, which, with increased payments of interest on the public debt and added outlay on railroads, left the treasury at the end of the year with a deficit of £528,000, which could be met by the issue of treasury bills, as similar deficits had been met before. This expedient could not be repeated with safety, however, to tide over the expected deficit of 1902, nor were retrenchments possible on the effective scale that had rescued the treasury in 1893. The Government would have to give assistance to the pastoral industry, the oldest and most important one in the state. Unless the immense recuperative powers of the country asserted themselves, the only resort would be direct taxation, which was generally unpopular in Queensland, although the Labor party would welcome such a solution. An income tax was dreaded chiefly on account of its inquisitorial character, and a land tax no minister would have the courage to propose in Queensland, although both of these taxes produce a large revenue in New South Wales. Aside from the sheep-growing industry, the development of the country was proceeding favorably. Agriculture was flourishing. New markets had been opened to Queensland products, and fresh capital was flowing in. Mining continued to be developed, the yield of gold in 1901 having been the largest in the history of the colony. Railroads had been extended to the mineral fields, and further extensions with private capital to remote parts of the state were under consideration. Parliament met on July 16. Special sales of land were authorized to provide means for meeting the treasury bills. The state Treasurer, who was a new man in public life, announced that he would propose an income tax should it be found necessary when the Federal tariff came into force.

South Australia.—The Legislative Council has 24 members, elected from 4 districts for nine years by householders; the Legislative Assembly has 54 members, elected for three years by all adult citizens resident for six months in their respective districts. The franchise was extended to women in 1894. The Governor at the beginning of 1901 was Lord Tennyson, appointed in 1899. The Cabinet was composed as follows: Premier and Treasurer, F. W. Holder; Chief Secretary, J. G. Jenkins; Attorney-General, J. H. Gordon; Commissioner of Crown Lands, L. O'Loughlin; Commissioner of

Public Works, R. W. Foster; Minister of Education and Agriculture, E. L. Batchelor. The ministry was reconstituted on May 14, as follows: Premier, Chief Secretary, and Minister controlling the Northern Territory, J. G. Jenkins; Attorney-General, Mr. Butler; Commissioner of Crown Lands, L. O'Loughlin; Commissioner of Public Works, R. W. Foster; Minister of Education and Industry, Mr. Brooker. Parliament was opened on July 13. A new Constitution was laid before the Legislature reducing the number of members of Parliament by one-third, and limiting to 5 the number of ministers. The establishment of a Federal Parliament rendered the reduction of state expenditure imperative. A provision almost identical with the one contained in the commonwealth act averts deadlocks between the Legislative Council and the Assembly. Members of the council are elected on the basis of household suffrage by the whole body of electors voting as one constituency, the method formerly practised. Members of the Assembly are elected by single constituencies. Revenue returns were satisfactory, and new gold-fields found at Taroocla, west of Port Augusta, and in other sections, promised to increase the resources of the state. The early-closing act passed in 1900 was considered too stringent, and the Government proposed therefore to modify some of its regulations. An agent was appointed in London whose special duty is to promote the expansion of South Australian trade. An outer harbor was to be made at Largs Bay, and railroads from Gawler to Angaston and from Laura to Booleroo, running through rich producing areas. A measure was introduced to facilitate closer settlement on land fit for agriculture and more intense cultivation. Commercial business was buoyant. A loan for public works was raised locally. Receipts from railroads and customs were increasing.

Western Australia.—The Constitution of Western Australia was granted in 1890. The Legislative Council, at first nominated by the Governor, has been elective since 1893, when the colony passed the stipulated limit of 60,000 population. There are 30 members, elected for six years in 10 districts by property holders. The Legislative Assembly is composed of 50 members, elected in separate districts by universal suffrage. The Governor in the beginning of 1901 was Sir Arthur Lumley, in whose absence Sir Alexander Campbell Onslow acted as Administrator. The Cabinet was composed as follows: Premier and Colonial Treasurer, George Throssell; Commissioner for Railways and Director of Public Works, Barrington Clarke Wood; Attorney-General, Richard William Pennefather; Colonial Secretary, George Randell. A general election was held at the end of April, resulting in the return of 17 Ministerialists, 21 members of the Opposition party, 6 Labor candidates, and 6 Independents. Mr. Throssell and his colleagues resigned on May 21. F. Illingworth, the leader of the Opposition, relinquished the premiership to Mr. Leake, who on May 24 formed a ministry as follows: Prime Minister and Attorney-General, George Leake; Colonial Treasurer and Colonial Secretary, F. Illingworth; Commissioner of Railroads, J. J. Holmes; Director of Public Works, W. Kingsmill; Minister of Mines, H. Gregory; Minister of Lands, C. Sommers. The new Premier promised to investigate thoroughly the finances, to push forward public works, and to institute an inquiry into the working and equipment of railroads. In addition to a deficit of £50,000 an excess of expenditure of £500,000 was to be provided for. The state was committed to an expenditure on

loan account of £3,000,000 extending over three years, and would have to borrow that amount and £550,000 more for authorized works, besides carrying £1,000,000 of treasury bills maturing in the year. Rolling-stock and other requirements for the railroads involved an expenditure of £1,000,000. Still no alarm was felt, as the resources of the state were enormous and the revenue was elastic. Parliament was opened on June 28. An advisory board of public works was instituted. Expenditure without the authority of Parliament must be discouraged. The agricultural, pastoral, and mining industries would be promoted by Government in every way. The ministerial measures included amendments to the public service and conciliation acts, a bill for the regulation of factories, others dealing with the rights of electors and the redistribution of seats, and one abolishing plural voting. The railroad employees struck in July for a shilling a day more wages, refusing to accept the Government's offer of arbitration, and interfering with mining, manufacturing, building, and trade.

Tasmania.—The Legislative Council has 19 members, elected for six years by property owners, and the Legislative Assembly has 46

nominations were made for life, prior to 1891. The House of Representatives has 74 members elected by adults of either sex who have resided a year in the colony and three months in the electoral district. The Maoris elect 4 members. In 1899 there were 373,744 registered voters, 210,529 of them men and 163,215 women, in the European, and 13,628 who voted in the Maori districts.

The Governor at the beginning of 1901 was the Earl of Ranfurly, appointed in 1897. The ministry was composed as follows: Prime Minister, Colonial Treasurer, Minister of Labor, and Minister of Defense, R. J. Seddon; Colonial Secretary, Postmaster-General and Electric Telegraph Commissioner, Minister for Railways, Minister of Industries and Commerce, and Minister of Public Health, J. G. Ward; Minister of Lands and Minister for Agriculture, T. Y. Duncan; Commissioner of Stamp Duties and Native Minister, J. Carroll; Minister of Immigration and Minister of Education, W. C. Walker; Minister for Public Works, W. Hall-Jones; Minister of Justice and Minister for Mines, J. McGowan; Commissioner of Trade and Customs, C. H. Mills; without portfolio, A. J. Cadman.

The area of New Zealand is estimated at 104,471



MAIL-COACH STATION, NEW SOUTH WALES.

members, elected by householders. The Administrator at the beginning of 1901 was Sir J. S. Dodds, appointed Aug. 14, 1900. The Cabinet was composed as follows: Premier and Attorney-General, N. E. Lewis; Chief Secretary, G. T. Collins; Treasurer, B. S. Bird; Minister of Lands and Works, E. Mulcahy; without portfolio, F. W. Piessé. In Tasmania mining continued to show progress in 1901, and the Government revenue was satisfactory except for a decline in customs, imports being light in view of the impending commonwealth tariff.

New Zealand.—Under the Constitution of 1875 the executive power of the Crown is entrusted to a Governor, and the legislative power is vested in a General Assembly, consisting of a Legislative Council and a House of Representatives. The Governor summons, prorogues, and dissolves Parliament on the advice of his ministers. He may veto bills or withhold them for the consideration of the Imperial Government, can send drafts of bills to either house for consideration, and proposals for the appropriation of public money must come from him before Parliament can legally provide for expenditures. The Legislative Council contains 45 members, appointed for seven years, excepting those appointed when

square miles, that of the North island being 44,468, the Middle island 58,525, and Stewart's island 665 square miles. At the census of 1896 there were 703,360 inhabitants—371,415 males and 331,945 females, exclusive of natives. The proportion born in New Zealand was 62.85 per cent.; in other colonies, 4.63 per cent.; in the United Kingdom, 30.62 per cent.; in foreign countries, 1.9 per cent. Of the total population 43.68 per cent. lived in boroughs. Wellington, the capital, had 41,758 inhabitants; Auckland, 57,616; Christchurch, 51,330; and Dunedin, 47,280. The Maoris, on Dec. 31, 1899, numbered 39,854, having decreased from 56,049, their estimated number in 1857. There are 1,645 public elementary schools, with 3,615 teachers and 131,315 enrolled pupils, the average attendance being 107,066, while the private schools number 803, with 15,295 pupils. This is exclusive of the native schools, of which there are 83, with 148 teachers and 3,065 pupils.

The revenue for the year ending March 31, 1900, was £5,386,989, of which £2,107,567 were derived from customs, £860,898 from stamps, including postage and telegraph stamps, £1,621,613 from railroads, £293,627 from the land tax, and £128,721 from the income tax. Sales of land produced £90,831. The total expenditures were £5,140,127,

of which £1,749,394 were for the public debt, £1,039,412 for railroads, £472,653 for education, £388,582 for posts and telegraphs, and £278,692 for constabulary and defense. The expenditures out of the public works fund from 1870 to 1900 amounted to £32,978,626. The total receipts of the colony for the year ending March 31, 1901, were £6,012,267, and the expenditures were £5,479,703. For the year ending March 31, 1902, the revenue was estimated at £5,896,000, and expenditure at £5,763,000. The amount of the public debt on March 31, 1900, was £46,930,077, requiring £1,674,618 for interest, not including £28,703 on treasury bills, and £46,073 for the sinking-fund. In 1901 the Government raised a loan of £500,000 in the colony at 4 per cent. and borrowed £1,500,000 in London. The total debt was £49,500,000, and £1,000,000 more would be required to carry on the public works for another year. The local revenues in 1899 amounted to £685,769 from rates and £1,206,095 from other sources; local expenditures were £1,778,574, and the local debts amounted to £6,963,254. The unimproved value of lands in the colony in 1898 was assessed at £84,401,244, against £75,497,379 in 1888, the rate of increase being 11.79 per cent., the value of improvements at £54,190,103, against £35,640,335, an increase of 52.05 per cent.; total valuation, £138,591,347, against £111,137,714, an increase of 24.7 per cent.

Two-thirds of the land in New Zealand is believed to be good for agriculture and stock-raising. The total area is about 67,000,000 acres. There are 9,000,000 acres of barren land and 20,000,000 acres of forest. The area cultivated in 1900 was 12,474,511 acres, of which 10,853,302 acres were sown grass lands. This does not include 16,890 acres of garden, 24,401 acres of orchard, and 48,942 acres of plantations. There were 269,749 acres under wheat in 1899, producing 8,582,000 bushels, an average of 31.81 bushels an acre; 398,243 acres under oats, producing 16,326,000 bushels; 48,003 acres under barley, producing 1,585,000 bushels. The live stock in 1900 consisted of 261,931 horses, 1,210,439 cattle, 19,348,506 sheep, and 249,751 hogs. Since 1891 the average amount of land settled annually has been 628,000 acres. There were 83,300 persons engaged in agricultural and pastoral pursuits in 1896, of whom 31,204 were occupying farmers, 16,473 relatives working on farms, 20,236 farm laborers, 1,638 holders of pastoral runs, and 6,742 station hands. The area occupied by settlement in 1900 was 34,422,653 acres including, and 25,607,049 acres excluding Crown lands held under pastoral leases. Crown lands may be bought for cash or held on perpetual lease on condition of continued occupation and cultivation. The mines of New Zealand in 1899 produced 389,558 ounces of gold, valued at £1,513,173; 349,338 ounces of silver, valued at £40,838; 11,116 tons of kauri gum, valued at £607,919; and 975,234 tons of coal, valued at £487,617. The production of gold was 50 per cent. greater than in 1898 and preceding years. The total export of gold since 1857 was in value £55,966,498. There were 2,459 manufactories in 1895, employing 27,389 persons. Their capital amounted to £5,796,017, and their annual production was valued at £9,549,360.

The total value of imports in 1899 was £8,739,633; exports of colonial produce, £11,799,740; re-exports, including specie, £138,595; total exports, £11,938,335. The imports of textiles and clothing were £2,123,135; of iron and steel goods, including machinery, £1,578,855; of paper and books, £368,617; of sugar, £354,925; of spirits, wine, and beer, £306,491; of tobacco and cigars, £184,173; of tea, £183,691; of fruit, £180,590; of

oils, £126,967; of sacks, £123,596; of fancy goods, £110,114; of coal, £92,815; of other merchandise, £2,879,687; of specie, £125,977. The export of wool was 147,169,497 pounds, valued at £4,324,627; of frozen meat, 1,865,827 hundredweight, valued at £2,088,856; of kauri gum, 11,116 tons, valued at £607,919. The export of butter was 136,086 hundredweight, and that of cheese 69,440 hundredweight, valued together at £713,617. The gold export was £1,513,180, not including £14,913 of specie. The export of grain, flour, and pulse was £731,805 in value; of hides, skins, and leather, £483,762; of tallow, £311,649; of phormium, or New Zealand hemp, £184,411; of preserved meat, £90,910; of grass seed, £61,974; of live animals, £22,689; of bacon and hams, £14,364; of other colonial produce, £649,977; of British and foreign produce, £123,682. Of the total imports in 1899 the value of £5,526,645 came from Great Britain, £1,336,828 from the Australian colonies, £775,309 from the United States, £332,833 from India and Ceylon, £303,524 from Pacific islands, £22,879 from China, and £441,615 from other countries. Of the total exports £9,427,515 went to Great Britain, £1,708,036 to Australian colonies, £433,499 to the United States, £133,215 to Pacific islands, £10,973 to China, £3,277 to India and Ceylon, and £221,820 to other countries.

The number of vessels entered during 1899 was 609, of 811,132 tons, of which 553, of 738,929 tons, were with cargoes; cleared, 604, of 807,866 tons, of which 570, of 778,245 tons, were with cargoes. Of the vessels entered, 388, of 392,671 tons, were colonial; 149, of 350,861 tons, were British; and 72, of 67,651 tons, were foreign. Of those cleared, 379, of 386,219 tons, were colonial; 152, of 355,442 tons, were British; and 73, of 66,205 tons, were foreign.

The Government railroads on March 31, 1900, had a length of 2,104 miles, and there were 167 miles of private railroads. The capital expended on the Government lines had been £17,554,584. The gross receipts for the year were £1,623,891, and expenses £1,052,358, being 64.8 per cent. of the receipts; number of passengers carried, 5,468,284; tons of freight, 3,251,716.

The post-office in 1899 forwarded 37,380,671 letters, 1,103,700 letter cards, 1,643,051 postal cards, 17,883,208 books and parcels, and 15,717,388 newspapers, and 344,664 money-orders were issued and 245,377 paid.

There were 6,910 miles of telegraph lines and 19,228 miles of wire on March 31, 1900; number of despatches sent during the year, 3,159,093; receipts from telegraphs and telephones, £162,945.

The colonial Parliament was opened on July 2. The legislative program consisted of measures for improving oversea steam service, preventing the fixing of abnormal prices for coal and food-stuffs by trusts, the establishment of a Government coal-mine, and the regulation of the hours of clerks in mercantile offices and banks. The leader of the Opposition, Capt. Russell, challenged a supply bill, and when the Government obtained a majority of 27 he resigned the leadership on the ground that there was no organized Opposition. The address was carried by a practically unanimous vote. The Cook and other islands were formally annexed to New Zealand on June 11. A cable was laid in 1901 between New Zealand and Australia at the joint expense of the colonies and the Imperial Government, and a tariff of a penny a word to London was agreed to. Penny postage had proved a success, leading to an increase of business that promised to make the revenue in two years as large as it was before the

reduction of the rate. Railroad traffic and receipts showed a continuous increase. Progress was made in the construction of the main trunk lines. The Government intended to manufacture iron and steel and all rolling-stock for the railroads and to improve the technical schools. The system of making advances of money to settlers at a low rate of interest is popular and works satisfactorily. In six years £2,067,000 were so advanced, and the Government intended to raise £2,000,000 more for the purpose in London, but on account of the state of the money market applied for only half that sum. A commission was appointed in January to consider the advisability of federation with Australia. The Government and the people generally were opposed to federation. The Labor leaders considered New Zealand to be more advanced than Australia; manufacturers were of the opinion that, paying much higher wages, they could not compete with Australian manufacturers; and all New Zealanders felt confident of their future as a separate

vessels of the British navy in Australasian waters. There would be disadvantages to New Zealand in regard to postal and telegraph matters under federation, and the advantage to the commerce and industries of New Zealand would be very slight, since Australia offered little demand for New Zealand products. The possibility of moderate trade reciprocity was recognized, but without any sanguine hope of securing it immediately. The refusal of the commission to sacrifice the independence of New Zealand was quite in accord with the popular sentiment.

Fiji.—The Governor of Fiji, Sir George T. M. O'Brien, has under him 6 European commissioners, besides the one in the island of Rotuma, and 11 native chiefs at the head of the different provinces, and 175 inferior chiefs serving in various civil capacities. The area of the group is 8,045 square miles, including Rotuma. The population was estimated on Dec. 31, 1899, at 122,673, comprising 67,788 males and 54,885 females. There were 4,373 Europeans, of whom 2,759 were males



WOOL TEAMS, DARLING DISTRICT, NEW SOUTH WALES.

nation, a vigorous island folk who would absorb in their dominions not only the Cook Islands, but the Fijis, the Tonga group, and all the lesser islands of their part of the Pacific. The federation commission reported unanimously against federating with Australia, since federation would seriously prejudice the finances and hamper its Government in the prosecution of any policy for the development of the resources of New Zealand. The commissioners were of the opinion that imperial unity would be better safeguarded by the existence of two British powers in the Pacific. Neither of them would be likely in a gust of popular passion or prejudice to break away from the empire without inquiry into the attitude of the other, and by such inquiry time would be gained for reflection and a catastrophe probably averted. In regard to defense, they believed that so long as Great Britain retains command of the sea New Zealand will be able to undertake its own land defense, and that should Great Britain lose command of the sea, Australia and New Zealand would not be able to render material assistance to each other against a foreign power, and that what assistance either of them could render to the other would be forthcoming if they continued to be separate colonies. A long time must elapse before Australia can build up a considerable navy, and they suggested that the subsidy to the Australian squadron be increased on the condition that the Imperial Government provide more and better cruisers. They were in favor also of the training of an imperial naval reserve for service on

and 1,614 females; 13,282 East Indians, of whom 8,875 were males and 4,407 females; 98,478 Fijians, of whom 52,354 were males and 46,124 females; and 6,540 Polynesians, Rotumans, half-castes, and others, of whom 3,800 were males and 2,740 females. The European, or white, population consists mostly of Australians and New Zealanders. There were 64 births and 26 deaths among Europeans, and 3,395 births and 3,871 deaths among Fijians in 1899.

The revenue in 1899 was £98,621, and expenditure £95,568. Of the revenue £52,631 were derived from customs; native taxes, paid in produce, £20,768. The expenditure for salaries was £40,035. There is a debt of £250,000. The value of imports in 1899 was £263,044, of which £256,761 came from British possessions; value of exports, £481,856, of which £426,703 went to British possessions. European planters cultivated sugar-cane on 23,160 acres, coconuts on 20,891 acres, bananas on 2,228 acres, rice on 714 acres, tea on 210 acres, pineapples on 157 acres, and peanuts on 230 acres. The value of sugar exported was £340,603; of copra £77,330; of bananas, £30,607; of spirits, £16,343; of peanuts, £3,182; of pearl shells, £3,092; of trepang, £2,344; of corn, £1,366; of vanilla, £1,050.

A petition from Fiji for annexation to New Zealand that was put in circulation after a visit from Mr. Seddon, the New Zealand Premier, evoked a warning to the natives from Sir George O'Brien, who said to them in a speech that wherever there was a Government like that of New

Zealand the white man had always taken land from the natives: what had been done in New Zealand itself, where the colored people were cooped up on a fragment of land left to them, would happen to the colored people of Fiji also, who would lose nearly all their land. Mr. Seddon appealed to Mr. Chamberlain, demanding that these charges should be either substantiated or withdrawn. The Governor of Fiji issued an order in Council making it an offense punishable with six months' imprisonment for any person to cause Fijians to become disaffected or to induce any Fijian to take action having for its object the subversion or alteration of the present form of government. There was disaffection against the Governor among both whites and natives. The New Zealand Government requested the imperial authorities to inquire into the condition of Fiji.

British New Guinea.—When the southeastern part of the island of New Guinea was annexed in 1887 the Government of Queensland guaranteed £15,000 a year for the expense of administration. The governments of New South Wales and Victoria afterward agreed to divide the expense, each colony contributing a third, and each having a voice in the affairs of the protectorate. The Lieutenant-Governor at the beginning of 1901 was George Ruthven Le Hunte. The local revenue, derived mainly from customs, was £11,683 in 1899; expenditure £15,583. Missionaries are active in the island. The coconut groves are being extended through European influence. Europeans are prohibited from acquiring land titles from natives and from supplying them with firearms or spirituous liquors, and the employment of native labor is subject to regulations. Land for planting can be acquired from the Government by lease or by purchase, the price being 2s. 6d. an acre. Tobacco, sugar, rice, rubber-trees, coffee, and tea can be grown. The forests are rich and extensive, affording sandalwood, ebony, gums, rattan, and many other products. Trepang, pearl shell, and pearls are found along the coast, and have been exported since before the British occupation. Copra and sandalwood are also exported, and gold, which is found in the Louisiade Islands, on Woodlark island, and in the mountains of the mainland. The value of imports in 1899 was £52,200, and of exports £68,500. The number of vessels entered in the foreign trade was 92, of 19,600 tons; cleared, 81, of 19,200 tons. There were 7,767 letters, 2,120 newspapers, and 640 packets carried in the mails in 1899. The Australian Commonwealth has taken steps to assume charge of the administration of New Guinea, which the state governments of Queensland, Victoria, and New Guinea are willing to resign. Lieut.-Gov. Le Hunte has endeavored to conciliate and win the confidence of the natives, and has refrained from retaliatory proceedings when they have committed savage crimes. Many of them are cannibals. On April 8, 1901, James Chalmers, a missionary explorer, a half-breed missionary, and the native Christians who accompanied them were massacred and eaten on an island in the Aird river. The natives boarded their vessel and would not leave until the missionaries went ashore with them. The members of the party were killed and their heads taken off as soon as they landed. Mr. Le Hunte, with 20 armed Europeans, mostly Government officials, and 40 native constabulary went to the island and destroyed the war canoes and the village dwellings, which were lined with human skulls, but left the dwellings intact. The natives attacked the party repeatedly with flights of arrows by day and night, and they had to fire in self-defense, killing 24 and wounding many.

AUSTRIA-HUNGARY, a dual monarchy in central Europe, composed, under the fundamental law of Dec. 21, 1867, of the Empire of Austria and the Kingdom of Hungary, inseparable constitutional monarchies, hereditary in the male line of the dynasty of Hapsburg-Lorraine or, in the event of the extinction of the male line, in the female line. The legislative power in affairs common to both monarchies, which are foreign relations, military and naval affairs, with the exception of the national territorial armies, common finance, commercial and railroad affairs concerning both monarchies, the customs tariff, the coinage, and the administration of the occupied Turkish provinces, is exercised by committees of the legislative bodies of both monarchies. These committees, called the Delegations, meet alternately in Vienna and Budapest, the respective Austrian and Hungarian capitals. They are composed of 20 members elected annually by each of the two upper houses and 40 members elected by each of the two lower houses. Each Delegation meets and votes separately, and, in case of disagreement, they decide the question by a joint vote. The common ministers are responsible to the Delegations, and they may be impeached for any dereliction of duty.

The Emperor of Austria and King of Hungary is Franz Josef I, born Aug. 18, 1830, proclaimed Emperor of Austria on Dec. 2, 1848, when his uncle, Ferdinand I, abdicated in consequence of a revolution, and he was crowned King of Hungary on June 8, 1867, when the ancient constitutional rights of that monarchy were restored. The heir presumptive is the Emperor-King's nephew, the Archduke Franz Ferdinand, born April 21, 1865, son of the late Archduke Karl Ludwig and the Princess Annunziata, daughter of the former King of Naples.

The ministers of the whole monarchy at the beginning of 1901 were as follow: Minister of Foreign Affairs and of the Imperial House, Graf Agenor Maria Adam Goluchowski; Common Minister of War, Gen. Edmund, Freiherr von Krieghammer; Common Minister of Finance, Benjamin de Kallay.

The Common Budget.—The expenditure for common affairs in 1898 was 183,905,220 florins, of which 144,105,050 florins were ordinary and 39,800,170 florins extraordinary expenses. The net receipts from customs were 71,147,770 florins, leaving 112,757,450 florins to be provided by the two monarchies, 2 per cent. of which, under the old *Ausgleich*, which was continued in force as a *modus vivendi* until 1899, was paid by Hungary, and the remaining 110,502,301 florins were assessed to the two monarchies, 70 per cent. to Austria and 30 per cent. to Hungary. A joint commission agreed in November, 1899, that the quota of Hungary should be 34.4 per cent. The Parliaments of the two countries having failed to ratify this arrangement, the monarch decided that it should be adopted provisionally until June 30, 1901. The sanctioned estimate of common expenditure for 1899 was 156,857,000 florins; the budget estimate for 1900 was 172,324,750 florins. The budget for 1901 makes the total expenditure 362,854,411 crowns, of which 322,497,028 crowns are for ordinary and 40,357,383 crowns for extraordinary purposes. The expenditure of the Ministry of Foreign Affairs is 10,739,079 crowns, 10,530,784 crowns for ordinary and 208,295 crowns for extraordinary purposes; the expenditure of the Ministry of War for the army, 278,649,953 crowns for ordinary and 25,168,528 crowns for extraordinary purposes, making a total of 303,818,481 crowns; expenditure for the navy, 28,741,660

crowns for ordinary and 14,969,160 crowns for extraordinary requirements, making a total of 43,710,820 crowns; expenditure of the Ministry of Finance, 1,620,609 crowns for central administration and the various departments, 2,640,000 crowns for military pensions, and 11,400 crowns for extraordinary expenses, making a total of 4,272,009 crowns; for the Board of Control, 314,022 crowns. The receipts of the administrations were estimated at 5,819,705 crowns, leaving 357,034,706 crowns to be covered by the net receipts of customs and the matricular contributions of the two monarchies, assessed under the new Ausgleich arranged in November, 1899, in the proportion of 65.6 per cent. to Austria and 34.4 per cent. to Hungary. The extraordinary expenses of the troops occupying Bosnia and Herzegovina were estimated at 7,382,000 crowns, paid by the two monarchies in the same proportion, except 80,000 crowns collected by the military administration.

The common debt, incurred before 1868, amounts to 2,719,494,879 florins, the expenses of which, for interest and amortization, are 126,047,658 florins, of which Austria pays 95,737,055 florins and Hungary 30,310,603 florins. The paper money guaranteed by both monarchies jointly was 112,000,000 florins in amount on June 30, 1900, and 12,142,900 florins were Austrian notes. Besides this paper money there was a floating debt of 36,846,230 florins.

The currency of the dual monarchy was altered by the law of Aug. 2, 1892, establishing the gold basis. Instead of the florin a monetary unit of half its value was adopted, the crown, equal to 20.3 cents in United States currency. Besides ducats, which have the value of 9 crowns 60 heller, 20-crown and 10-crown pieces have been coined in gold; single crowns in silver, containing 4.175 grammes of fine metal; 20-heller and 10-heller pieces in nickel, 100 hellers making a crown; and 2-heller pieces and single hellers in bronze. The silver gulden or florins continue to be legal tender for any sum, but the silver crowns, although accepted by the Government for taxes up to any amount, are legal tender only to the amount of 50 crowns. Notes of the Austro-Hungarian Bank are legal tender. The bank has a capital of 90,000,000 florins, and in 1898 had a reserve fund of 32,535,000 florins and 737,476,000 florins of notes in circulation, while the assets consisted principally of 490,089,000 florins cash, 75,563,000 florins loaned to the Government, 258,483,000 florins of commercial loans, and 139,552,000 florins loaned on real estate.

The Army.—Military service is obligatory from the age of twenty-one for three years in the line, seven years in the reserve, and two years additional in the Landwehr of Austria or in the Honved of Hungary. Those not drawn for the active army are enrolled in the supplementary reserve for twelve years. The peace strength of the Austro-Hungarian army in 1900 was 3,597 officers and 9,889 men in the staffs, 1,697 officers and 7,153 men in military establishments, 9,428 officers and 161,602 men in 102 regiments and 102 cadres of infantry, 1,019 officers and 16,536 men in 4 regiments of Tyrolese jägers and cadres and 26 battalions of ordinary jägers, 1,890 officers and 45,906 men in 42 regiments of cavalry, 1,647 officers and 25,586 men in 56 regiments and 56 cadres of field artillery and 1 division of 3 batteries and 1 cadre of mountain artillery, 422 officers and 7,786 men in 6 regiments and 3 battalions of fortress artillery, 495 officers and 8,445 men in 15 battalions of pioneers, 89 officers and 1,490 men in 1 regiment and cadre of railroad and telegraph

troops, 79 officers and 2,964 men in the sanitary corps, 417 officers and 3,309 men in 3 regiments and 22 cadres of train, 2,415 officers and 22,949 men in 32 regiments of Austrian Landwehr infantry, 246 officers and 2,119 men in 6 regiments and 3 squadrons of Austrian Landwehr cavalry, 2,587 officers and 22,312 men in 28 regiments of Hungarian Landwehr infantry, and 426 officers and 4,346 men in 10 regiments of Hungarian Landwehr cavalry; total peace effectives, 21,160 officers and 325,350 men, with 62,824 horses and 1,048 field pieces. The infantry weapon is the Mannlicher rifle of 8 millimeters caliber, carrying 5 cartridges in the magazine. The cavalry are armed with sabers and repeating carbines. The field guns are of tempered bronze, having a smooth breech block, the bore being 9 centimeters, and that of the mountain guns 7 centimeters.

The Navy.—The Austro-Hungarian navy in 1900 consisted of five armored turret ships built between 1887 and 1897, the Kronprinz Rudolf, Wien, Monarch, Budapest, and Kronprinzessin Stephanie; six armored battle-ships with casemated batteries built before 1878, Tegetthoff, Custoza, Erzherzog Albrecht, Don Juan d'Austria, Kaiser Max, and Prinz Eugen; four ram cruisers built between 1889 and 1899, Kaiser Karl VI, Kaiserin and Königin Maria Theresa, Kaiserin Elisabeth, and Kaiser Josef I; 9 torpedo-vessels built between 1879 and 1897 and 7 of smaller size built between 1887 and 1897; 6 seagoing torpedo-boats; and 24 first-class, 31 second-class, and 7 third-class torpedo-boats. The navy was manned by 737 officers, 513 mechanics and employees, and 7,500 sailors. The Habsburg, of 8,300 tons, launched in 1900, and two sister ships since begun, are improvements on the Monarch, Wien, and Budapest, which displace only 5,600 tons, but are well protected with Harvey armor and armed with 4 9.4-inch guns mounted in couples in fore and aft turrets, with a powerful quick-firing armament. The larger vessels will carry 2 such guns in the forward turret and only 1 aft, but will have 12 6-inch quick-firing guns in casemates of Krupp armor. A sister ship to the armored cruiser Kaiser Karl VI, of 6,100 tons, has also been begun. The belt is 10½ inches thick, and the armament is 2 9.4-inch guns, 8 5.9-inch quick-firers, and 18 smaller ones.

Bosnia and Herzegovina.—The treaty of Berlin, signed July 13, 1878, placed Bosnia and Herzegovina, Christian provinces of Turkey, under the military and civil administration of Austria-Hungary and gave the right of military occupation over the sanjak of Novi-Bazar, the civil administration of which was reserved to the Porte. The civil population of the occupied provinces in 1895 was 1,568,092, and the military population 22,944; total, 1,591,036. Their area is 19,700 square miles. The foreign population was 70,848, of whom 66,376 were of Austro-Hungarian nationality. The budget for 1900 makes the cost of central administration 3,650,424 crowns; of the interior, 17,034,934 crowns; of finance, 12,750,780 crowns; of justice, 1,715,140 crowns; of buildings, 6,375,090 crowns; total, 41,526,368 crowns. There are 545 miles of railroad and 5,290 miles of telegraph. The number of messages in 1899 was 402,263, of which 153,091 were internal, 234,405 international, and 14,767 official. The post-office forwarded 9,457,505 letters and postal cards and 2,582,227 circulars and newspapers. The young men of the occupied provinces are obliged to serve in the Austro-Hungarian army by virtue of the law of Oct. 24, 1881. Four regiments of infantry and 4 sections of engineers are raised, numbering 6,711 men. The provinces are garrisoned by

the Fifteenth Army Corps, numbering 20,110 men.

Commerce and Production.—The total value of the special imports of merchandise into the Austro-Hungarian customs territory in 1899 was 804,400,000 florins, and of the special exports 930,700,000 florins. The imports of raw wool were 54,920,000 florins in value; of raw cotton, 54,453,000 florins; of silk, raw and manufactured, 42,585,000 florins; of coal and coke, 41,812,000 florins; of tobacco, 25,001,000 florins; of machinery, 22,007,000 florins; of coffee, 20,668,000 florins; of copper, 14,925,000 florins; of flax and jute, 14,731,000 florins; of wine in casks, 14,700,000 florins; of eggs, 13,672,000 florins; of prints and books not bound, 13,385,000 florins; of hides and skins, 7,090,000 florins; of corn, 6,918,000 florins; of wheat, 5,449,000 florins; of hogs, 4,023,000 florins; of lard and bacon, 2,670,000 florins; of rye, 1,302,000 florins. The exports of wood and wood manufactures were 116,303,000 florins in value; of sugar, 86,569,000 florins; of eggs, 42,609,000 florins; of barley, 36,348,000 florins; of brown coal, 32,198,000 florins; of malt, 25,249,000 florins; of glass and glassware, 24,990,000 florins; of cattle, 24,885,000 florins; of horses, 23,234,000 florins; of gloves and shoes, 22,196,000 florins; of woolen manufactures, 21,219,000 florins; of hops, 11,103,000 florins; of coal, 10,762,000 florins; of bed feathers, 9,809,000 florins; of cask staves, 9,809,000 florins; of poultry, 9,793,000 florins; of beans, 6,805,000 florins. The imports of gold and silver coin and bullion were 21,557,000 florins, and exports, 35,533,000 florins. The imports from and exports to various countries in 1899 are given in florins in the following table:

COUNTRIES.	Imports.	Exports.
Germany	299,273,000	491,437,000
Great Britain	74,145,000	83,256,000
Italy	59,699,000	71,737,000
Russia	43,333,000	40,451,000
United States	62,473,000	16,082,000
Switzerland	27,661,000	35,622,000
British India	43,717,000	18,217,000
France	27,687,000	29,920,000
Turkey	18,717,000	30,398,000
Roumania	14,144,000	33,007,000
Servia	17,988,000	13,104,000
Belgium	19,508,000	6,552,000
Netherlands	8,858,000	14,027,000
Egypt	8,221,000	10,334,000
Brazil	15,940,000	1,758,000
Greece	7,430,000	6,497,000
South America	11,760,000	1,819,000
Dutch East Indies	9,913,000	94,000

The area cultivated in Austria in 1899 was 28,290,656 hectares, of which three-eighths was under farm crops, over a third forest, and a quarter pasture and meadow. The production of wheat was 18,157,000 hectoliters; of barley, 24,250,000 hectoliters; of oats, 43,052,000 hectoliters; of rye, 30,897,000 hectoliters; of pulse, 3,791,000 hectoliters; of buckwheat, 2,025,000 hectoliters; of corn, 5,115,000 hectoliters; of other cereals, 1,356,000 hectoliters; of potatoes, 107,903,000 quintals; of sugar-beets, 65,284,000 quintals; of other beets and turnips, 25,977,000 quintals; of wine, 3,368,000 hectoliters; of tobacco, 39,000 quintals; of hops, 108,000 quintals; of hemp, 55,000 quintals; of flax, 69,000 quintals; of cocoons in 1898, 1,682,777 kilogrammes. The forests cover 9,787,508 hectares, of which 6,828,415 hectares are pine forest. The product of coal in 1899 was 44,750,000 florins in value; of brown coal, 47,584,000 florins; of iron, 38,626,000 florins; of lead, 1,872,000 florins; of quicksilver, 1,230,000 florins; of zinc, 2,020,000 florins; of silver, 1,905,000 florins; of copper, 921,000 florins. The total

value of minerals was 104,146,136 florins, and of furnace products, 47,498,858 florins. The value of fish caught by 14,385 fishermen in 3,404 boats in the summer was 1,615,469 florins, and by 11,816 fishermen in 3,101 boats in winter was 1,054,146 florins. The quantity of beer brewed in 1898 was 19,206,585 hectoliters; of alcohol distilled, 1,373,326 hectoliters.

Three-quarters of the people of Hungary depend on agriculture. Only 5 per cent. of the soil is infertile, 41 per cent. is farm land, 23 per cent. pasture and meadow, 28 per cent. forest, and 3 per cent. garden and vineyard. Two-thirds of the land is managed by the owners and about half the farms, occupying half the cultivated land, are between $7\frac{1}{2}$ and 150 acres. The yield of wheat in 1899 was 40,905,000 centners; of corn, 33,189,000 centners; of barley, 14,005,000 centners; of oats, 12,705,000 centners; of rye, 12,668,000 centners; of buckwheat, 146,000 centners; of mixed grain, 1,591,000 centners; of other cereals, 501,000 centners; of pulse, 2,216,000 centners; of potatoes, 38,651,000 centners; of sugar-beets, 16,224,000 centners; of other beets and turnips, 39,151,000 centners; of wine, 2,041,000 hectoliters; of tobacco, 435,000 centners; of hemp seed, 362,000 centners; of rape seed, 431,000 centners; of cocoons, 1,244,728 kilograms; of honey, 33,518 centners; of beeswax, 2,319 centners. The forests cover 9,037,844 hectares, of which 4,728,527 hectares are beech, 2,417,833 hectares oak, and 1,891,484 hectares pine. The exports of timber and forest products in 1899 were valued at 85,506,000 crowns, and imports at 13,386,000 crowns. The total value of ores and other minerals in 1899 was 57,383,000 crowns, the value of coal being 13,005,000 crowns; that of iron ore, 9,847,300 crowns; that of lignite, 29,300,800 crowns, and that of gold, silver, copper, lead, manganese, and other ores, 4,674,900 crowns. The value of pig-iron produced was 38,023,200 crowns; of gold, 10,059,900 crowns; of silver, 2,427,600 crowns; of antimony ore and regulus and crude antimony, 855,700 crowns; of lead, 740,900 crowns; of iron pyrites, 639,800 crowns; of coal briquettes, 499,200 crowns; of copper, 239,100 crowns; of other furnace products, 1,485,500 crowns; total, 54,970,900 crowns. The quantity of beer brewed in 1899 was 1,566,251 hectoliters; of alcohol distilled, 1,161,871 hectoliters; of sugar manufactured, 2,467,800 centners. The special commerce of Hungary in 1899 was valued at 1,198,761,000 crowns for imports and 1,200,500,000 crowns for exports. Of the imports, 22.66 per cent. was raw material and 77.34 per cent. manufactured products, while of the exports, 62.11 per cent. was raw material and 37.89 per cent. manufactured products. Of the imports, 78.27 per cent. came from, and of the exports, 71.41 per cent. went to Austria, Germany coming next, and then Great Britain, Servia, France, Switzerland, and Italy. The cotton fabrics imported were 142,316,000 crowns in value; woolen fabrics, 95,460,000 crowns; silk goods, 36,476,000 crowns; wine in casks, 28,927,000 crowns; wheat, 23,227,000 crowns; refined sugar, 23,049,000 crowns; coal, 20,732,000 crowns; boots and shoes, 19,785,000 crowns; cotton yarn, 19,784,000 crowns; coffee, 19,309,000 crowns. The value of flour exported was 146,964,000 crowns; cattle, 86,127,000 crowns; wheat, 70,211,000 crowns; barley, 61,063,000 crowns; hogs, 49,730,000 crowns; corn, 33,506,000 crowns; horses, 30,697,000 crowns; oats, 29,236,000 crowns; rye, 28,872,000 crowns; eggs, 28,533,000 crowns.

Navigation.—The number of vessels entered at the ports of Austria during 1898 was 105,412, of

12,682,701 tons; cleared, 105,413, of 12,686,481 tons. Of the vessels, 88 per cent., and of the tonnage, 90 per cent., was Austrian. The merchant shipping of Austria on Jan. 1, 1899, comprised 157 vessels for ocean navigation, of 172,286 tons; 1,400 coasting vessels, of 24,623 tons; and 10,958 fishing vessels and small craft, of 23,112 tons. The total number of sailing vessels was 12,418, of 58,097 tons; steamers, 187, of 161,924 tons.

The number of vessels entered at Hungarian ports during 1899 was 19,415, of 2,129,752 tons; cleared, 19,420, of 2,128,595 tons. Of the vessels, 84 per cent. and 60 per cent. of the tonnage was Hungarian. The merchant shipping of Hungary consisted of 62 vessels for ocean navigation, of 57,192 tons; 149 coasting vessels, of 5,483 tons; and 283 fishing and small craft, of 442 tons. Of the total number, 424, of 16,023 tons, were sailing vessels and 70, of 47,094 tons, were steamers.

Railroads, Posts, and Telegraphs.—There were 11,444 miles of railroad in Austria at the close of 1898, of which 4,763 miles were state lines, 1,681 miles belonging to companies but worked by the Government, 4,938 miles lines owned and worked by companies, and 62 miles foreign lines. The number of passengers carried in 1898 was 126,087,000; tons of freight, 111,198,000; receipts, 287,817,000 florins; expenses, 178,930,000 florins.

The length of railroad lines in operation in Hungary at the close of 1899 was 10,527 miles, of which 4,750 miles were Government lines, 3,719 miles lines of companies worked by the Government, and 2,058 miles lines owned and worked by companies. The number of passengers carried in 1899 was 61,581,000; tons of freight, 39,933,000; receipts, 258,300,000 crowns; expenses, 141,600,000 crowns.

The number of letters and postal cards that passed through the Austrian post-office in 1899 was 980,477,790; samples and printed matter, 131,712,730; newspapers, 102,609,700; receipts, 99,059,448 crowns; expenses, 85,425,706 crowns.

The number of letters and postal cards that the Hungarian post-office forwarded in 1899 was 281,679,000; newspapers, 111,989,000; samples and printed matter, 47,098,000; money and postal orders, 20,005,000; registered letters and parcels, 18,509,000. The receipts, including those from telegraphs and telephones, were 45,507,000 crowns; expenses, 32,713,000 crowns.

The length of telegraphs in Austria in 1899 was 33,235 miles, with 100,332 miles of wire. The number of messages sent in 1899 was 14,697,898. There were 253 telephone systems, with 102 circuits between cities, having altogether 68,445 miles of wire. The number of conversations in 1899 was 83,402,544.

The telegraph lines of Hungary had a total length of 14,015 miles, with 69,750 miles of wire. The number of messages, including railroad messages, was 13,919,737. There were 46 telephone exchanges and 27 intercity circuits, with connection with Vienna and Berlin. The length of wire was 31,380 miles.

Austria.—The legislative authority for the empire is vested in the Reichsrath, but each province possesses a large measure of autonomy and has a Landtag to legislate on matters not reserved by the Constitution for the Reichsrath. The upper house of the Reichsrath, called the Herrenhaus, is composed of 18 princes of the imperial family, 67 heads of noble families having large territorial possessions, 5 cardinals, 6 bishops possessing the rank of prince, and 140 members nominated for life. The lower house, called the Abgeordnetenhaus, is composed of 425 members elected for six years by 5 classes of electors—large proprietors,

cities, chambers of commerce and trade councils, rural districts, and the class embracing the whole body of electors. The Council of Ministers appointed Jan. 19, 1900, was composed as follows: President of the Council and Minister of the Interior, Dr. E. von Körber; Minister of National Defense, Graf Zeno Welsch von Welsersheimb; Minister of Railroads, Dr. H. Ritter von Wittek; Minister of Finance, Dr. E. Ritter Böhm von Bawerk; Minister of Justice, Baron A. Spens von Booden; Minister of Worship and Public Instruction, Dr. W. Ritter von Hartel; Minister of Commerce, Baron G. von Call von Culmbach; Minister of Agriculture, Baron K. von Giovanelli; without portfolios, Dr. A. Rezek and Dr. Leonard Pietak.

Area and Population.—The area of the Austrian Empire is 115,903 square miles. The population at the census of 1890 was 23,895,413, composed of 11,689,129 males and 12,206,284 females.

The number of marriages in 1899 was 213,631; of births, 986,098; of deaths, 656,176; excess of births, 301,997. The number of emigrants from Austria and Hungary in 1898 was 55,007, of whom 52,282 emigrated to the United States, 1,060 to Brazil, and 605 to the Argentine Republic.

Finances.—The revenue of the Austrian Government in 1898 was 794,058,000 florins in cash and 7,502,000 florins in bills; total, 801,560,000 florins. The expenditure was 803,547,000 florins in cash and 5,787,000 florins in bills; total, 809,334,000 florins. The revenue for 1900 was estimated at 1,585,811,822 crowns, the expenditure at 1,586,403,933 crowns. The budget estimate of revenue for 1901 was 1,641,997,585 crowns, and of expenditure 1,641,163,344 crowns. The sources of revenue were: Reichsrath and Council of Ministers, 1,661,800 crowns; Ministry of the Interior, 2,922,023 crowns; Ministry of Defense, 862,711 crowns; Ministry of Worship and Instruction, 13,936,032 crowns; Ministry of Finance, 1,148,589,848 crowns; Ministry of Commerce, 124,835,890 crowns; Ministry of Railroads, 280,476,440 crowns; Ministry of Agriculture, 33,852,381 crowns; Ministry of Justice, 2,522,444 crowns; pensions, 2,964,920 crowns; subventions and donations, 628,200 crowns; state debt, 26,356,296 crowns; debt administration, 19,600 crowns; sales of state property, 401,000 crowns; payment by Lombard railroads, 1,968,000 crowns. The branches of expenditure were: Imperial household, 9,300,000 crowns; imperial Cabinet chancery, 182,143 crowns; Reichsrath, 2,585,224 crowns; Supreme Court, 49,724 crowns; Council of Ministers, 2,931,714 crowns; contribution to common expenditure, 265,916,732 crowns; Ministry of the Interior, 67,570,603 crowns; Ministry of Defense, 59,194,751 crowns; Ministry of Worship and Instruction, 75,114,558 crowns; Ministry of Finance, 251,059,328 crowns; Ministry of Commerce, 125,772,230 crowns; Ministry of Railroads, 246,541,050 crowns; Ministry of Agriculture, 43,780,345 crowns; Ministry of Justice, 70,037,115 crowns; Board of Control, 441,800 crowns; pensions, 58,283,518 crowns; subventions and donations, 16,114,610 crowns; state debt, 345,122,525 crowns; debt administration, 1,165,374 crowns.

The debt of the Austrian Government on Jan. 1, 1900, amounted to 1,581,728,212 florins, the consolidated debt being 1,566,030,111 florins and the floating debt 15,728,101 florins.

The Reichsrath.—Elections for a new Reichsrath were held in January, 1901. The violent obstructive tactics of the Young Czechs, who by that means endeavored to force the Government to alter the language regulations according to their ideas, had stopped the machinery of parliamentary government and brought on the dissolution

of the Reichsrath. The conservative Czechs, called the Bohemian Feudalists, maintained the same views as to the historic rights and the integrity of the Kingdom of Bohemia and the political and administrative equality of the Czechs with the Germans. They differed mainly from the Young Czechs on the question of methods, condemning every form of obstruction, and going so far as to propose amendments to the procedure of the Reichsrath that would enlarge the disciplinary powers of its president so as to prevent in the future the scandalous scenes that paralyzed the normal functions of the Chamber in 1900. The elections in Bohemia turned on this question as to whether obstruction is justifiable or expedient. The language conflict increased the strength in Bohemia and elsewhere of the Pan-German party, which looks forward to the incorporation of the German-speaking lands of Austria and of Bohemia as well in the German Empire. The result of the elections was the dwindling of the moderate and conciliatory elements without shifting the balance between the aggressive parties. The Young Czechs gained the victory over the Old Czechs; the Pan-Germanists won several seats; the Polish faction was strengthened considerably; the once dominant German Liberals continued to decline in numbers; the Social Democrats increased at the expense of the Christian Socialists, or Anti-Semites, and of the Catholic Populists. The most striking feature of the contest was the setback received by the Viennese Anti-Semites, which the German Progressists helped to bring about by giving some of their votes to Social-Democratic candidates. The Clericals, as well as their Anti-Semite allies, lost heavily. In Bohemia the Clerical vote showed considerable gains, and the Socialists lost 6 seats to the Young Czechs and the Pan-Germans. The number of the latter in the Reichsrath was increased from 5 to 21. Half of these subscribed to the program of Dr. Schönerer, who advocated emancipation from Rome in order to prepare for the entrance of the German provinces of Austria into the German Empire, since the German Government would not favor the annexation of German Austria at the cost of bringing about Catholic preponderance in Germany. Schönerer and his principal lieutenant, Wolf, had actually changed their faith and entered the evangelical communion. The Pan-German members held a meeting to discuss Schönerer's program, which they accepted, with his leadership, with the proviso that it did not involve the renunciation of the Catholic religion, but was to be taken as signifying only emancipation from the influence of the Roman curia in political and national affairs. The Pan-Germanic joined hands with the German People's party, forming a strong group of over 60 members. The Czechs of all shades gathered together into one club. The German Progressists also adhered to the object of establishing German as the state language. The Catholic People's party and the Center party united in a club pledged to uphold Catholicism, the dynasty, Austrian interests, and parliamentary government.

The Reichsrath was opened on Jan. 31. The Pan-Germanic union, the Socialists, and the extreme faction of the Czechs had absented themselves when the Chamber was called upon to cheer the Emperor. The speech from the throne offered a list of important social and economic reforms, in which Dr. von Körber hoped to awaken sufficient popular interest to bring about a truce between the nationalities. The necessity was recognized of a clearer definition of the extraordinary powers of the Government in cases of emergency,

so that the rights of popular representation should be safeguarded and the responsibility of the Government clearly understood. At a calmer period the revision of parliamentary rules of procedure could be considered whereby the business of the Reichsrath would be expedited without infringement of the freedom of discussion. An administration independent of political influences was declared necessary in the interest of the people and the state. The abolition or alleviation of some taxes was announced, also the relief of certain provinces whose revenues were insufficient. Measures were needed for the regulation of the currency. The necessity of preserving Austria's position in the world's markets brought economical questions to the front. The expiration of most of the commercial treaties entailed a revision of the customs tariff. A bill for the promotion of industry and commerce would be brought in immediately. The completion of the railroad network of the state, especially by a second line to Trieste, would be spread over several years. Another measure was intended to secure to the laboring population dwellings conducive to health and morality. Means were required for the development and equipment of the superior schools to conform with the latest advances of science. Reforms in other parts of the educational system were in preparation, as well as in various other departments.

The settlement of the language question by legislation was the only safeguard for the continuance of the system of government in Austria which had produced a powerful army, flourishing finances, high public credit, and universal education. The Constitution afforded ample autonomy to the lands of the Austrian Crown, while securing the unity and strength of the empire. The feud of the nationalities was the disturbing cause that had interrupted the normal activity of the Reichsrath and hindered the establishment of old-age and invalid insurance and other projects for the material and intellectual development of the empire. The Government intended to do all that it could to cure the evil, but was bound to preserve intact the unity of language in certain branches of administration in which it constituted an old and established institution. The cooperation of the Reichsrath would be indispensable in the approaching settlement of the commercial relations between the two halves of the monarchy.

Among the projects of legislation, which were enough to occupy several sessions of a Reichstag working in perfect order, were measures for the protection of workmen, for the development of the commercial marine, for the construction of harbors, for the improvement of the army, and for Bosnian railroads. The Reichstag in the early part of the session was the scene of disorder and violence worse than any exhibitions of the previous Parliament. Missiles were thrown at the president, and several times the Czech and German members came to blows. The president of the Chamber had to decide how to receive interpellations in other languages than German. The Czechs demanded the recognition of the absolute equality of languages; the Germans insisted that no language be used but German. Formerly every member could speak German, but in the present Parliament there were illiterate Slavs who knew no language but their own. The Government endeavored to bring about a compromise, but consultations with the party leaders were fruitless. The Czechs appealed to the article in the Constitution establishing absolute equality of languages, the Germans to the traditional and necessary use of German and the impossibility of discussion carried on in the eight different languages of the

empire. The president then decided, on Feb. 20, to accept non-German interpellations, which must be translated into German, and in this form incorporated in the minutes, with the original interpellation appended. This decision was not satisfactory to either Czechs or Germans, and its announcement was the signal for an exchange of insults and an uproar that compelled the president to bring the proceedings to a close. The succeeding sittings were as stormy and scandalous. The use of insulting epithets was formerly unknown in Parliament, as it is contrary to the habits and education of the people of Austria of all classes, and is even punishable by law. The practice was introduced by the Anti-Semites in the Diet of Lower Austria and the municipal council of Vienna, and had the effect of demoralizing the surprised majority. At the moment when the conflict of nationalities became acute the innovation was adopted by the opposing parties in the Reichsrath, and the employment of abusive terms calculated to shock and revolt, and to provoke or silence opponents, was reduced to a science. The ruling of the president that the German translation of Czech interpellations be read in Parliament occasioned a fresh outburst of national passion, but the Czechs were not so outrageous as the Pan-Germans, who openly avowed their desire for annexation to Germany and imported religious rancor into the controversy by charges of immorality against the priesthood and by repeating clerical scandals. The Social Democrats joined in the attacks on the clergy. The Clerical Anti-Semites retorted by sweeping accusations against the Jews. The Government arranged a truce with the Czechs, promising public improvements at Prague and other advantages, though not the desired university at Brünn. The Reichstag discussed economic and other measures which were popular in the constituencies. The German and Czech members spontaneously came to an understanding for the advancement of canal and railroad schemes. In May, in day and night sittings, the Reichsrath endeavored to make up for the inaction of years. The annual contingent for the army, the imposition of a higher tariff on Italian wines, several measures affecting taxation, a bill making nine hours a day's work in mines, and the great railroad scheme of the Government were discussed, and the last measure, as well as the canal bill, was passed by agreement between all the parties. The regular business was interrupted at times by demonstrations against Anti-Semitic officials who had dismissed German Nationalist and Social-Democratic school-teachers. The arrangement made between Austrian and Hungarian parliamentary committees respecting the quota of each half of the monarchy in the common expenditure was laid before the Reichsrath, with a warning from the Prime Minister that the Government would not undertake to carry through popular measures if bills necessary for the existence of the state failed to pass. The new Ausgleich concluded by the Austrian and Hungarian governments was unpopular with all parties in Austria. It was generally regarded as a hard bargain extorted from Austria during the breakdown of the Reichsrath. The Czech representatives even of the moderate stripe were unwilling to support the Government in passing the measure through the Reichsrath on condition that a national concession be offered to their constituents, such as equality in the employment of the Czech and German languages in the public offices of Bohemia and Moravia.

Hungary.—The upper house of the Hungarian Parliament is the Chamber of Magnates, composed

in 1901 of 17 archdukes, 55 ecclesiastical dignitaries, 10 bannerets of the kingdom, the Count of Presburg, 2 keepers of the crown, 2 presidents of the royal assize court, 2 presidents of the administrative tribunal, the president of the royal table of Budapest, 3 delegates of the Diet of Croatia-Slavonia, the Governor of Fiume, hereditary members, consisting of 7 princes, 169 counts, and 49 barons, members nominated by the King for life, 50 in number, and 27 members elected by the Chamber of Magnates. The Chamber of Deputies is composed of 453 members, of whom 413 are elected for five years by the electoral colleges of Hungarian counties and towns, and 40 are elected from among its members by the Diet of Croatia-Slavonia. The Council of Ministers, constituted on Feb. 25, 1899, was composed as follows: President of the Council, Koloman von Szell; Minister of National Defense, Baron G. de Fejervary; Minister for Croatia-Slavonia and Dalmatia, E. von Czeh; Minister of Finance, Dr. L. de Lukaes; Minister of Worship and Public Instruction, Dr. J. von Wlassics; Minister of Agriculture, Dr. J. Daranyi; Minister of the Imperial Cabinet, Count J. Szechenyi; Minister of Justice, Dr. A. Ploss; Minister of Commerce, A. de Hegedus.

Area and Population.—The area of the Kingdom of Hungary, including Croatia and Slavonia, is 125,039 square miles. The population at the census of 1890 was 17,463,791, comprising 8,668,175 males and 8,795,616 females.

Finances.—The ordinary revenue of the Hungarian Government in 1899 was 503,525,000 florins; extraordinary and transitory revenue, 11,307,000 florins; total revenue, 514,832,000 florins. The ordinary expenditure was 454,886,000 florins; transitory expenditure, 13,094,000 florins; investments, 38,903,000 florins; extraordinary contribution to common expenditure, 6,685,000 florins; total disbursements, 513,568,000 florins. The estimate of revenue from all sources in 1900 was 1,054,513,404 crowns, and of the total expenditures 1,052,681,821 crowns. The budget estimate of ordinary revenue for 1901 was 1,012,770,396 crowns, and of extraordinary revenue 43,811,901 crowns; total, 1,056,582,297 crowns. Of the ordinary revenue, 2,849,317 crowns come from state debts, 2,000 crowns from the Ministry *ad latus*, 7,867,497 crowns from the Ministry of the Interior, 687,121,467 crowns from the Ministry of Finance, 268,606,725 crowns from the Ministry of Commerce, 38,924,077 crowns from the Ministry of Agriculture, 4,543,319 crowns from the Ministry of Instruction and Worship, 2,085,170 crowns from the Ministry of Justice, and 770,824 crowns from the Ministry of National Defense. The ordinary expenditure was estimated at 970,496,503 crowns, transitory expenditure at 30,771,834 crowns, and investments at 55,288,080 crowns; total expenditure, 1,056,556,417 crowns. Of the ordinary expenditure, 9,300,000 crowns were for the civil list, 182,144 crowns for the Cabinet chancery, 3,570,432 crowns for Parliament, 65,923,497 crowns for common expenditure, 42,951 crowns for common pensions, 19,448,005 crowns for Hungarian pensions, 259,964,560 crowns for the national debt, 27,350,106 crowns for debts of railroads acquired by the state, 312,204 crowns for debts of guaranteed railroads, 8,397,319 crowns for loans of separate departments, 16,926,513 crowns for the administration of Croatia-Slavonia, 334,640 crowns for control, 557,594 crowns for administration of courts, 979,869 crowns for the minister-presidency, 141,673 crowns for the Ministry *ad latus*, 92,360 crowns for the Minister for Croatia, 41,843,860 crowns for the Ministry of the Interior, 176,691,681 crowns for the Ministry of Finance, 188,744,-

045 crowns for the Ministry of Commerce, 45,337,315 crowns for the Ministry of Agriculture, 31,294,546 crowns for the Ministry of Instruction and Worship, and 36,492,491 crowns for the Ministry of National Defense.

The debt of the Hungarian Government at the end of 1899 was 2,475,225,000 florins, of which 1,089,033,000 florins were consolidated debt, 1,049,404,000 florins annuities, 11,626,000 florins treasury bonds, 76,265,000 florins debts of the various departments, and 248,897,000 florins arrears.

The Session of Parliament.—The most important measure of the session of 1901 was one declaring certain commercial occupations incompatible with a seat in Parliament, particularly an interest in any business house or an office in any company having dealings with the Government. The bill extended the scope of one passed in 1875 in consequence of abuses that became manifest during the commercial crisis of 1873. Count Stephen Tisza was disposed to object to the stringent provisions of the new bill because it would disqualify some of the most active and influential members of the Liberal party, but he and his followers eventually withdrew their opposition, sacrificing party advantages in the interest of political morality and the dignity and independence of Parliament. The establishment of a special Agrarian party in Hungary was a singular political phenomenon in a country where nine-tenths of the members of Parliament are agriculturists. The success of the Agrarians in Germany in forcing the Government of that country to adopt a minimum tariff prejudicial to Austrian, and especially to Hungarian trade, imposing high duties on cattle, pigs, poultry, eggs, and other animal products, was more freely discussed in Hungary than in Austria, and doubts were expressed whether a political alliance and commercial warfare could long subsist between two countries. The proposed German tariff was considered more favorable to Italy and even to Russia than it was to Hungary.

AUTOMOBILES. Among the many subjects of interest that have claimed the attention of the engineer and inventor, and, indeed, the business man and the society woman, is the recent advance in the manufacture and operation of automobiles. Of the many styles now on the market there are comparatively few that can be considered as having met the demands of the general public, and the horse is still the favorite means of transit with the greater number of business men. Many kinds of machines are now made in this and foreign countries. The motive power is divided into three distinct classes—steam, electricity, and gas, commonly called gasoline, from the fact that the gas is made directly from gasoline, which is carried by the vehicle. There are a few exceptions to this.

Referring to the steam-propelled vehicle, we find that many of its principal parts are common to all types of automobiles. It has a body mounted on the frame, running-gear having axles and wheels, a motor or engine geared to one of the axles to propel the vehicle, apparatus for steering, brakes, and means for signaling. These features may be made in many designs, and a good type of either could be used on any vehicle, whether propelled by steam, gas, or electricity.

The steam-propelled vehicle has the following apparatus necessary for its perfect operation: A steam-boiler; a steam-engine; a pump for forcing the water into the boiler; an automatic governor for keeping the water at the proper height in the boiler; a frame and running-gear, consisting of the axles, wheels, and differential gear; an air-pump to keep a pressure on the oil-tank to force the oil

to the burners; an oil-tank for fuel; a water-tank; controlling valves and levers for starting, stopping, and reversing the engine; the steering-gear; the brakes; the steam-muffler; the feed-water heater; the burners to heat the boiler; the trumpet or bell for signaling; and the vehicle body, containing the seat. Added to these are the many small parts, such as the automatic mechanism for releasing the steam when the pressure becomes too high and reducing the fire under the boiler to prevent the steam from creating too high a pressure. This constitutes a complete steam-plant mounted on wheels, which must be capable of being operated by any person having an ordinary knowledge of simple mechanics. Therefore it is necessary to make the whole operation of generating the power as nearly automatic as possible, and to design the mechanism so that it will not become deranged by reason of rough roads or any other ordinary condition likely to be encountered. This being the case, it is easy to understand the difference of opinion that exists as to the best agent for the propulsion of automobiles. The use to which the vehicle is to be put has much to do with the selection of the proper power. For heavy trucking, a large power that takes up comparatively little room is essential, whereas a vehicle built for pleasure and long runs could be almost entirely filled with the mechanism without impairing its efficiency.

The Steam Automobile.—The steam automobile is still the favorite type with many, and was among the earliest attempts to solve the problem. One of the best machines of this type is the locomobile. In this the power is applied to the rear axle from the engine. The steam-propelled vehicles of this type weigh about 1,000 pounds with tanks filled ready for a journey, and are designed for the accommodation of 2 persons. The wheels are of the steel-spoke variety, 28 inches in diameter, with pneumatic tires 2½ inches in diameter.

The gasoline-tank holds five gallons, and the water-tank 26 gallons. The extreme length is 7 feet 4 inches; extreme width, 4 feet 10½ inches; extreme height, 5 feet 2½ inches. This automobile carries sufficient fuel to run fifty miles without replenishing, and the water-tank will need refilling but once in that distance.

The steam-machines can be run at any speed by simply regulating the steam-valve, and this is one of the advantages of this type. They can be repaired by any intelligent machinist, as steam machinery is familiar to most mechanics, and any break or disorder is easy to locate. They will climb hills where a gas-machine will come to a standstill (both machines having the same power), due to the fact that the steam-machine can be regulated to run at a slow speed with a good pressure of steam, whereas a gas-machine engine must run fast enough to store the necessary power in its fly-wheel, and must then transmit the power through clutch mechanism to the axles, and as the gas-engine is an intermittent engine, it can not properly develop its power under these conditions.

The steam-machine starts with an easy movement, makes very little noise, and practically has no bad odors. It can be operated at a low cost, and the repairs are easy to make. Its disadvantages are the number of its parts which are liable to become deranged. The boilers become overheated and burn out, and they are, moreover, liable to explode from careless handling or, in case of collision, when the boiler is damaged. The gasoline is also a source of danger, especially with careless persons, but when it is handled with care few accidents occur. One of its chief draw-

backs is the amount of space that the mechanism occupies. If it is crowded too close, it is hard to get at it for repairs.

An automobile having several improvements over any now in the market of its type is shown herewith.

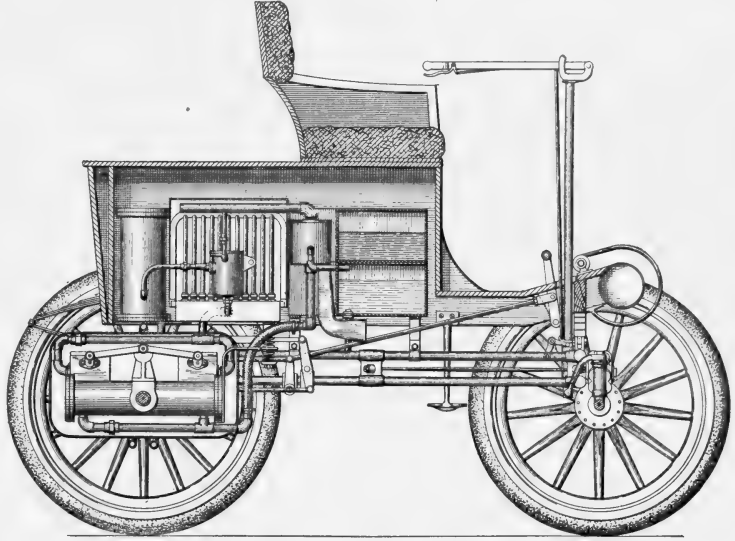
The engine is mounted directly on the rear axle. It is driven by steam, which is generated in a boiler composed of copper tubes, which has no shell or expanded joints, and no joints of any kind are in the heat of the fire. The greatest damage that could happen with this boiler would be the bursting of one of the tubes, which could be replaced easily by a new one while on the road, and in a few minutes. It would also take a pressure of more than 1,500 pounds per square inch of area to burst the tube, so there is very little danger from this cause. The bursting of the tube would not injure the vehicle proper, and is not dangerous to life. In this design the water is fed to the boiler automatically, whether the vehicle is moving or not. The steam is condensed, and the water is used over and over, thus saving the heat, keeping the boiler cleaner from scale and sediment, and preventing all noise from escaping steam. It also allows a much smaller water-tank to be used. Kerosene oil is used for fuel. It is gasified and burned under blast, which is automatically maintained and governed by the pressure of steam in the boiler. By the use of kerosene, the cost of operation is reduced more than 50 per cent. as compared with gasoline.

This machine has a 21-horse-power engine, and weighs complete but 1,200 pounds. It will run 100 miles without replenishing either fuel or water. For local traffic the tanks could be made much smaller and the engine of much less power, thus saving much of the space which is now filled with mechanism. This machine is being made by the Manhattan Automobile Company, of New York city, and is one of the best of its type.

The Gas-Engine Automobile.—This type of machine is well adapted for long journeys and high speed. There is less mechanism than in the steam-machine, but this type has serious defects that offset in a great measure its other advantages. The mechanism of the propelling parts includes a gas-engine, a carbureter or vaporizer for changing the liquid gasoline into gas, a sparking device to ignite the gas in the cylinders of the engine, a gasoline-tank to hold the fuel, an electric battery to furnish the electricity for the sparking device, a water-tank, a pump to circulate the water around the gas-engine cylinder to keep it from becoming too hot, a device to cool the water after it becomes hot from the engine, a friction-clutch to transmit the power from the engine to the axle of the vehicle, the differential gear, the reverse mechanism, and the change-speed device whereby the speed of the vehicle can be altered. It must also have the steering-device, brakes, etc., common to all automobiles. It will

be seen that there is considerable mechanism to be kept in order.

The gas-engine generally used in automobile practise is known as the Otto type four-cycle engine. This engine uses a mixture of gas and air, which is compressed in the cylinder and then exploded, creating the power, which is transmitted to the crank-shaft through the connecting-rod of the engine, and to the fly-wheel, which is mounted



MANHATTAN STEAM AUTOMOBILE.

on the crank-shaft. This shaft is very heavy, and the fly-wheel is very much heavier than those used in steam-engines, for the following reason: When the gas is admitted into the engine cylinder the piston is drawn back, drawing in its supply of the explosive mixture of air and gas; then the movement of the piston is reversed, compressing the mixture; the mixture is then ignited by the electric spark, and the explosion instantly follows, forcing out the piston and transmitting the power through the connecting-rod, crank, and shaft to the fly-wheel, where it is stored by reason of the wheel taking up the motion and power. The fly-wheel now has become the propelling power, and forces the piston back through the cylinder, thus expelling the carbonic-acid gases or products of combustion. It is then drawn back by the fly-wheel, drawing in a new gas mixture, and again reverses its movement, compressing the gas mixture, and is again exploded by the electric spark, thus giving new momentum to the fly-wheel. It will be seen from this that the engine gives but one power stroke in every four strokes, and that the other three strokes of the piston are absorbing a portion of the power that is stored in the fly-wheel by the power stroke.

The gas-engine has a governor, so the engine runs at a constant speed, and to have the automobile run at different speeds the gearing is changed by moving one of the controlling levers. There are usually three speeds at which a gas automobile, when operating on this principle, runs.

There is another way of governing gas-engines for automobile work which has come into more general use, and that is to throttle the explosive mixture, and also by changing the lead of the spark. Either of these ways will give good re-

sults, and engines are now on the market that will run at speeds of 700 to 1,600 revolutions a minute. With a well-designed engine arranged to drive a single-seated carriage, an engine capable of giving at least 4 horse-power at 500 to 600 revolutions a minute should be employed, and if there are steep hills, or it is desired to run at high speed, a 6-horse-power engine should be used.

Trouble is caused by the gas mixture not having the proper proportion of air and gas. The electric spark may fail to ignite the gases, either from the sparking plug being out of order or the electric battery being too weak. The gasoline may be of a poor quality, or too cold to vaporize. The vaporizer may fail to supply the oil vapor fast enough. The clutches may not work properly, causing the vehicle to start suddenly, or they may release slowly when it may be necessary to stop quickly, causing accidents that otherwise could have been averted. The danger of the gasoline-tank exploding is not great when it is handled with care, and the engine itself is as safe as any kind of engine, when properly made.

This type of vehicle requires a more experienced operator than either steam or electrically propelled vehicles, and when the parts are deranged or the engine fails to work, it is more difficult to locate the cause, and often more difficult to remedy than with steam. When the engine is stopped, it is necessary to get out of the vehicle and start the engine again by turning a crank to compress the charge of gas and get the first explosion, but as the engine is usually allowed to run while the vehicle is standing, this does not have to be done very often. The gas automobile made by the Au-

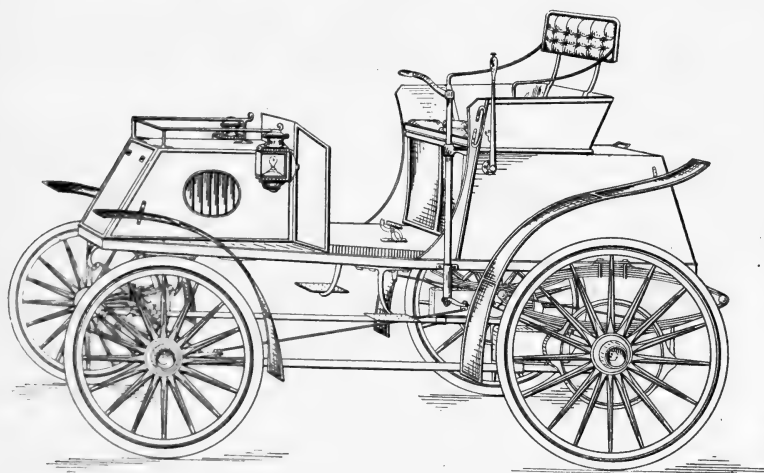
6 to 30 miles an hour without changing the gears, and on slower speeds, for hill climbing, etc., the slower gear is thrown in, and will work from 1 to 8 miles an hour. It runs with very little vibration, due to perfect balancing of the parts and the fact that a 3-cylinder engine is used, which allows the power to be more equally and evenly applied to the axle, and this freedom from vibration can not be attained unless the engines are carefully balanced. The engine cylinders are water-cooled, and the water-tank carries sufficient to keep them in proper condition for a day's run, due to the efficient water-heat radiators that are used, which continually cool the heated water as it comes from the engine jackets. The radiators are mounted on the front of the carriage, and are of such design that they do not detract from the general appearance of the vehicle. The water-tank holds 7 gallons. The Stanhope phaeton is steered by a jointed lever extending across and in front of the operator, managed by his right hand. Thus placed, it is less tiring to the arms than a sidewise-swinging lever. The surrey is steered with a wheel. A vertically-moving handle at the driver's left engages the clutches of the speed gears, and a pedal operates the reverse. A second pedal acts on a pair of powerful brakes, one on each rear hub, which will hold the carriage in either direction on a hill. A tube surrounding the vertical steering-post, at the driver's left, connects with the throttle-valve which controls the engine, and is operated with the left hand. One vaporizer of simple construction, which requires no adjustment, feeds all 3 cylinders of the engine. Jump-spark ignition, with variable lead, is em-

ployed, and the current that operates the igniter is furnished by 2 storage cells of battery. A muffler is used to silence the exhaust, thus making the machine noiseless compared with most of this type. The parts are all made on the interchangeable principle, so any broken or worn part can be duplicated at low cost and in a short time, by ordering the numbered part.

The Motor Bicycle.

—What may be properly classed with the gas-engine automobiles is a machine known as the motor cycle, which is an ordinary bicycle, driven by a small gas-engine.

On account of the difficulties encountered in reducing the mechanism so that it would fit within the frame of the bicycle, few manufacturers have been successful in producing a machine that is simple and neat. The diagram drawing illustrates a machine of this type, known as the Stratton motor cycle. This machine weighs complete but 78 pounds, and is propelled by gasoline gas, which is generated and used as follows: The tank (11) holds sufficient gasoline to propel the wheel about 75 miles at a speed varying from 3 to 35 miles an hour. The motor develops $1\frac{1}{2}$ horse-power, and is of the four-cycle type described above under the head of The Gas-Engine Automobile. The cycle is setarted by pedaling a few



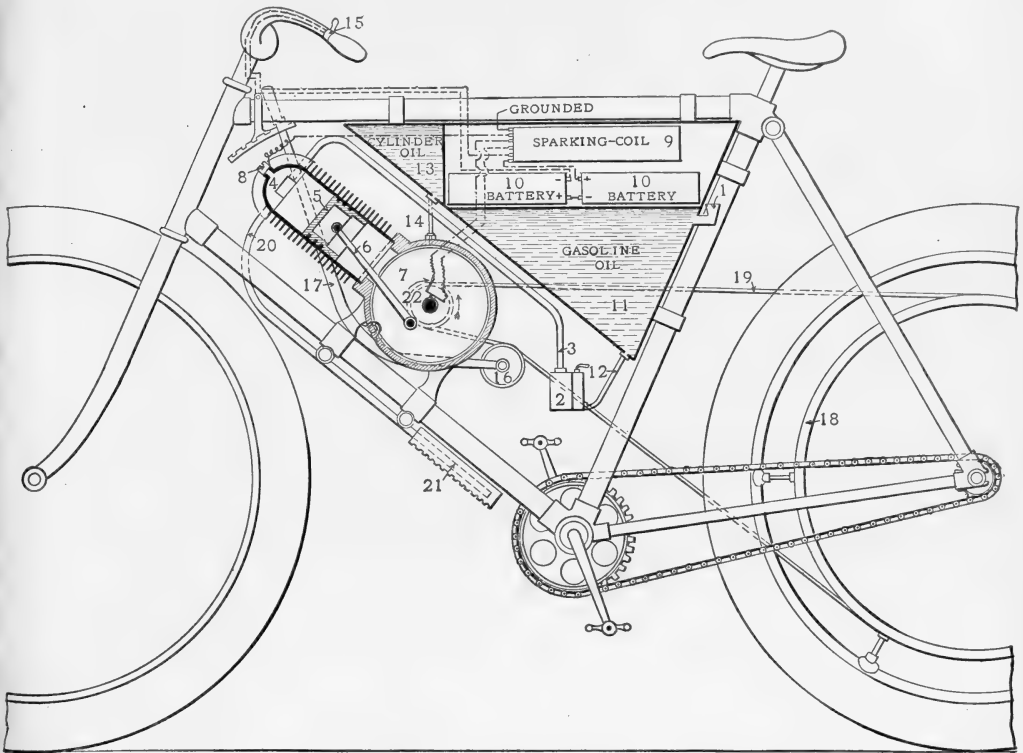
RIKER ELECTRIC AUTOMOBILE.

tomobile Co. of America, in a test on ordinary roads of 464.2 miles, in which 80 automobiles started and 13 gas-machines won first prizes, won 2 of the 13, going the entire distance at an average speed of 12.91 miles an hour. This type of machine is more expensive than steam, and weighs considerably more, but a gallon of gasoline will propel it a greater distance than the same quantity of oil burned under the boiler will propel the steam-machine. The present machine will develop a speed of 30 miles an hour on good roads, and one supply of gasoline will propel the vehicle a full day's journey. The gasoline-tanks hold about 10 gallons.

This machine will run at speeds varying from

turns to get momentum to compress the charge in the engine; then the lever (17) is thrown into place, which causes the belt (19) to engage the small driving pulley of the motor, which in turn causes the piston (5) to move up and down

The Electric Automobile.—The electric automobile is in many ways superior to either the steam- or the gas-propelled vehicles. It is neater in appearance than the other types, and the mechanism is much simpler and easy to manage;



THE STRATTON MOTOR CYCLE.

in the cylinder (4), thereby drawing in the gas, which is formed in the mixing-valve (2). By turning the switch (15) the electric current is turned on, thereby causing a spark at the end of the plug (8), which ignites the gas, and the explosion forces the piston (5) downward, thereby causing the fly-wheels (7), which are connected to the small driving pulley, to revolve, and the power is transmitted to the rim (18) by the V-shaped belt (19). Compartment 13 contains cylinder oil, which automatically flows into the casing of the motor and lubricates the piston (5) and all the wearing parts. The exhaust gases of the motor are carried off through the pipe (20) into a muffler (21), which practically takes up all the noise. The mixing-valve (2) is a simple device for transforming the gasoline into a vapor and mixing it with air to form an explosive mixture. The batteries (10) supply the necessary current to ignite the gas in the engine. This current is made to flow through a coil of wire, and when the current is interrupted a second current is created in another coil of wire, known as the secondary coil, which is wound outside of the first coil, and this current is of much higher voltage and is used to make the spark. This double-coil arrangement is known as a sparking coil. The batteries are of the ordinary dry-cell type used for door-bell calls.

In case the fuel gives out or the motor fails to work, the tension on the belt can be relieved by means of the lever (17), and the bicycle can then be propelled in the ordinary way.

but its faults are of such a nature that they are hard to remedy.

Its mechanism consists of a storage-battery, an electric motor, an electric controller for regulating speed and reversing, gearing from the motor to the rear axle, differential gear to allow one rear wheel to run faster than the other in turning corners, etc., steering-gear, brakes, and signals. All the mechanism of this type has been fairly well perfected for propelling automobiles, with the exception of the storage-batteries. These have been perfected for work where they remain at rest, as in a power plant, but when they are placed on a moving vehicle, they are often shaken violently, and continually discharge the current at different rates, often at a higher rate than they can stand, and thus many troubles arise. In the first place, they are very heavy, and the active material comes loose from the plates; the plates buckle when the rate of discharge is too great; the acid creeps out of the batteries; the solutions become weak, or one cell gets badly out of order and causes a choking of the current; they sometimes short-circuit, thus losing the power. But the most serious drawback is the fact that, on account of the size and weight, they can not carry enough cells to propel an ordinary vehicle much more than 30 miles on one charge of the battery. It then becomes necessary to recharge, and this can only be done at some electric-power station. In case the vehicle is taken too far, and the electricity gives out, it becomes necessary to push the

vehicle to the nearest station, which may be miles away.

If it were not for these defects, electricity would be the ideal power for vehicles. The problem of getting a greater mileage from the electrically propelled vehicle has been attacked from a different direction, however, and the remedy consists in saving a part of the current and making it do work where it is now wasted, at the same time prolonging the life of the batteries. This method was devised and patented by Frank B. Rae, an electrical engineer of New York city, who was one of the earliest inventors in this line, and has proved successful. The Rae electric automobile differs from the ordinary in the design of the motor and the method of its control, the object being chiefly to obtain a very high efficiency in starting and accelerating, while at the same time maintaining the average efficiency at maximum speeds.

The electric automobile depends for its energy upon the storage-battery, and the motor should be designed to meet the limitations imposed by the battery. The makers of storage cells, of whatever type, are careful to state the rate of discharge for the best conditions of operation, and to give a maximum rate of discharge that should not be exceeded. The usual design of motors for automobile work is based upon maximum-speed conditions, and in starting and accelerating such a motor, the current consumption during this period is from two to three times greater than is

time in accelerating, and reaches speed with a current consumption little if any above the normal discharge rate of the cells. This is accomplished by a motor design in which the starting torque is produced by a large number of field turns and a small current, and by a system of regulation whereby the effective turns are decreased to increase the speed.

Below is a diagram showing the several combinations of field windings to produce this result. The motor is of the railway type, one motor only being used on the vehicle. It is geared to the rear axle by a simple differential gear, having one reduction, and is so arranged that the axle is continuous and is not weakened by dividing as is usually done. The tests upon one of the Rae cabs weighing approximately two tons, over a measured mile of level boulevard, gave the result shown in the table:

Position of controller.	Speed of motor R. P. M.	Speed of carriage m. p. h.	Current at 80 v.	Time in min. for 1 mile.	Watt-min. for 1 mile.	EFFICIENCIES.	
						Motor only.	Motor and gear
2	548	6.85	16.75	8.75	196	81.6	73.5
3	740	9.25	22.50	6.50	195	91.8	82.7
4	1,008	12.6	30.00	4.75	190	94.5	85.1

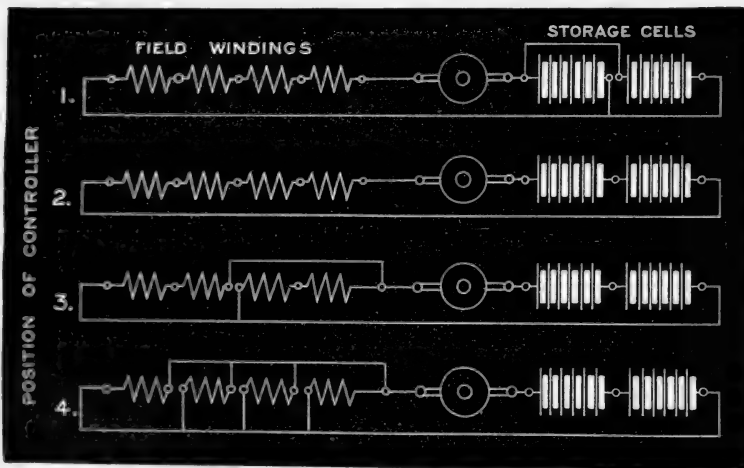
Whatever the speed made by the cab for the test distance, the watt-hours consumed were practically the same—that is to say, for a given distance the watt-hours per ton-mile for the machine tested averaged about 82 at any speed from 6 miles to 12 miles an hour.

The 4 - per - cent. grade is ascended at about 6 miles an hour, while the current draft is about 42 amperes, which is well within the discharge rate of the cells. In the cab with which this test was made the battery was rated at 125 ampere-hours at 80 volts, or 10,000 watt - hours. The radius of action was therefore 52 miles. The machine has repeatedly made 50 miles on boulevard and asphalt roads.

The Riker vehicles are driven by an

equipment which consists of 2 motors, each connected to a driving-wheel that turns freely on a stationary axle. The latter is in one piece, making the vehicle very strong. The motors are pivotally secured to the axle and suspended from the side bars. In some cases there is an advantage in using but one motor, which must therefore turn both rear wheels, and must be geared to them in such a way that either of them can turn independently of the other while rounding curves. To do this some makers cut the rear axle in halves, and connect the halves with the compensating gears. In this vehicle the compensating gear is placed in the left-hand rear hub, making the rear axle as strong as with the 2-motor method. This enables both methods of driving to be used, without sacrificing strength or simplicity.

Within a radius of 30 miles, and within New York city, charging stations are erected where



RAE'S SYSTEM OF MOTOR CONTROL.

required to operate the motor at maximum speed. It therefore follows that a motor ordinarily designed to utilize nearly or quite the rated discharge of the battery when operating under full-load and full-speed conditions, will require, to start and accelerate this load, a battery discharge of two or three times the rated output of the battery.

In practical operation in city streets, an automobile consumes a very large part of its time in starting, stopping, and accelerating, again slowing down and getting under headway, so that in ordinary practise the total energy taken from the battery for this work is greater, and the rate of discharge much more severe upon the battery, than is the case when the motor is operating under maximum-speed conditions.

The Rae system of design and control obtains a high starting efficiency, without sacrifice of

any electric machine may be recharged by connecting the batteries with a charging plug and depositing the price in an automatic receptacle, which turns on the current for a certain length of time, sufficient to charge the batteries.

Automobiles for Racing.—The machines built for high speeds, as for racing, have attracted a great deal of attention. They are mostly of the gas-propelled type. They are very heavy and powerful, and a speed of a mile in one minute sixteen and three-quarter seconds has been made over a measured course. These machines have a power of more than 50 horse-power. A vehicle now under construction in Jersey City is to be propelled at the rate of 70 miles an hour. It was ordered by several well-known men, and will cost \$20,000. The carriage will be of the skeleton type, following the lines of those used in France. The engine will be driven by gasoline gas, having 6 cylinders, and will develop 125 horse-power. It will weigh about 2,800 pounds. In a test on the Brooklyn, N. Y., speedway, Nov. 16, 1901, a Mors gasoline machine made a mile in 51½ seconds.

Regulations.—In New York a speed limit of 8 miles an hour is imposed on automobiles. In Cincinnati an ordinance was passed on Jan. 28, 1901, to regulate the operations of automobiles in the city streets. This ordinance requires every automobile to carry a lighted lantern between sunset and sunrise, the light to be visible at least 200 feet distant. These vehicles must also have a whistle or alarm-bell, to be sounded on approaching or crossing intersecting streets. The speed is restricted to 8 miles an hour, and no two may be operated abreast except upon special permission of the chief of police. They are not per-

mitted to interfere with any vehicle or member of the fire department or salvage corps going to or from a fire. A fine not exceeding \$5 is the penalty for violation of this ordinance.

The regulations in force in Paris, France, require the vehicles to be so constructed as not to allow the escape of any matter that might cause explosions or unpleasant smells, frighten horses, or obstruct the view of the driver. They must carry lights after dark, and handles regulating the machinery must be so arranged that the operator can work them without taking his eyes off the route he is following. Each vehicle must be provided with two distinct systems of brakes, each capable of shutting off the force of the motor and bringing it under instant control. One at least of these systems must act directly on the wheels or axles in such a manner as to bring them immediately to a standstill. All carriages exceeding 250 pounds in weight must be able to reverse their machinery and run backward. The name and address of the maker and owner of the vehicle must be displayed on it, and the operator must slow down, or if necessary stop, each time the vehicle may be the cause of an accident, of disorder, or of an interruption of traffic. In narrow or crowded thoroughfares the speed must be reduced to a walking pace. The approach of the vehicle must, if necessary, be signaled by a trumpet, and each one must be provided with two lamps, a white one and a green one.

In Spain automobiles are taxed, the tax being regulated according to the size of the cities. In Belgium one weighing 880 pounds or more is taxed \$9.65 a year, while those under that weight are taxed \$3.86.

B

BAPTISTS. The statistical tables published in the American Baptist Year-Book for 1901 gives the number of regular Baptist associations in the United States as 1,680, with 43,959 churches, 29,810 ordained ministers, and 4,233,226 members. These numbers show gains during the year of 25 associations, 532 churches, 337 ministers, and 51,540 members. The number of baptisms returned during the year was 107,235. The number of Sunday-school pupils, 1,794,820, was equivalent to about 40 per cent. of the church-membership.

The colored Baptist organizations have in all 10,043 ministers, 14,897 churches, and 1,591,735 members. These figures are included in the above enumeration.

The total amount of contributions for general missionary purposes was \$1,186,296, and \$10,128,298 were contributed for local purposes.

Two hundred and two Baptist institutions for higher education returned 2,463 teachers, 39,408 students, and property and endowments amounting to \$36,072,735.

The names of 38 Baptist benevolent institutions— orphanages, hospitals, etc.—are given, and a list of 118 Baptist periodicals is published.

The table of Baptists in the world gives: In North America 45,301 ministers, 30,586 churches, and 4,376,666 members; in South America, 28 ministers, 15 churches, and 1,639 members; in Europe, 4,069 ministers, 3,118 churches, and 488,869 members; in Asia, 1,602 ministers, 852 churches, and 119,745 members; in Africa, 111 ministers, 129 churches, and 6,700 members; in Australasia, 236 ministers, 169 churches, and 19,261 members; total, 51,347 ministers, 34,869 churches, and 5,212,880 members. The number of baptisms returned dur-

ing the year was in North America, 203,306; in South America, 291; in Europe, 22,492; in Asia, 8,178; in Africa, 810; in Australasia, 1,252; total, 236,329.

Northern Anniversaries.—The annual meetings of the Northern Baptist Societies in the United States were held in Springfield, Mass., beginning with the twenty-fourth anniversary of the Woman's Baptist Home Mission Society, May 20 and 21. The receipts of this society for the year had been \$68,972, and the expenditures \$72,970; and the accounts showed a deficiency of \$4,429. One hundred and fifty-nine missionaries had labored under the auspices of the society during the whole or part of the year, at or from 103 stations, in 34 States and Territories, the District of Columbia, 3 states in Mexico, Cuba, and Porto Rico—14 among Americans, 12 among Chinese, 19 among Indians, 32 among foreign populations in the United States, 61 among negroes, and 12 among Spanish-Americans. These missionaries, besides other meetings, had labored in 4,999 Sunday-schools and organized 42. The training-school at Chicago, Ill., where, besides Bible teaching, instruction is given in medicine, nursing, industrial training, kindergarten methods, physical and voice culture, with evangelistic visitation among the people, had been attended by 518 pupils, of whom 373 were Americans and the rest of 12 nationalities.

Publication Society.—The seventy-seventh anniversary of the American Baptist Publication Society was held May 22 and 23. The report mentioned a largely increased demand for the society's own publications, so many of them never having been sold before in a single year

during its history; yet the year's business as a whole had not been as successful as had been hoped, the aggregate of sales—\$670,972—showing a decrease of \$1,645 from the previous year. In the missionary department the receipts had been \$108,982, and the deficit of \$11,910 at the beginning of the year had increased to \$18,624. One hundred and ten missionaries and workers had been employed, 374 Sunday-schools organized, 644 persons baptized, 2,828 Sunday-schools and individuals aided by gifts of Bibles, books, and periodicals, and 747 institutes held.

Home Mission Society.—The meeting of the American Baptist Home Mission Society, May 23 and 24, was its sixty-ninth. The receipts—\$706,833—had been sufficient to liquidate the debt of \$32,201 with which the year was begun, meet all current expenses on a large scale, and leave in the treasury a balance of \$203. Of the expenditure, \$211,710 had been for mission work, \$251,263 for education, \$79,799 for expenses of administration and collection, and \$32,201 for the debt of the previous year. Eleven hundred and ninety-nine laborers had been supported wholly or in part by the society, 279 missionaries and 15 teachers among the foreign population, 53 missionaries and 101 teachers among the colored people, 20 missionaries and 23 teachers among the Indians, 14 missionaries and 6 teachers among the Mexicans, 12 missionaries and 5 teachers among Cubans and Porto Ricans, 3 teachers among the Mormons, and 578 missionaries among Americans. The society aided in the maintenance of 31 schools established for the colored people, Indians, and Mexicans, 7 day-schools for the Chinese, 1 day-school in Utah, 1 in New Mexico, and 1 in Cuba. Nineteen hundred and fifty-four churches and stations had been supplied, 4,906 members received by baptism, and 81 churches organized. An unusual demand had been made upon the board during the year for aid from the loan and gift funds in the erection of new meeting-houses. Fifty-two churches had been aided. The attendance of pupils in all the schools under the care of the society had been exceptionally large, and a notable improvement in the grade of preparation with which students enter was mentioned. The original purpose for which the schools were established—that of providing a trained leadership, especially well-qualified pastors and teachers—had been kept steadily in view; and while industrial education had not been overlooked or neglected, it had been subordinated to the intellectual, religious, and moral training. A resolution was adopted recognizing the increased importance of the Indian work, and the necessity of giving more attention to the education of the Indian children since the withdrawal of Government aid from the "contract schools."

Missionary Union.—The meetings of the American Baptist Missionary Union took place May 27 and 28. The report (eighty-seventh) represented that during the early months of the year it had looked as if an accumulated debt of \$111,000 might be increased to \$160,000; but instead of increase of debt the board were able to report the entire payment for all the work of the year closed, with a surplus; with which surplus and the sum of \$68,666 unexpectedly received from the bequest of the late Daniel S. Ford, \$73,000 had been paid on the debt, reducing the amount of it to \$38,297. Further, about \$50,000 had been sent in for India famine relief. The total amount of the receipts for the year (exclusive of the India famine relief funds) was \$687,706. The matter of cooperation between the colored Baptist brethren, North and South, with the Missionary

Union had been under advisement for several years. Now definite steps had been taken. An arrangement had been made with the National Baptist Convention, Louisville, Ky., for the joint employment of the Rev. Charles S. Morris, to visit the churches in the South, white and colored, in behalf of missions in Africa. Under a similar arrangement of cooperation with the Lott-Carey Convention, another colored Baptist body, the Rev. C. C. Boone had gone as a missionary to Palabala, on the Congo.

The numbers returned from the mission fields were: From the European missions, 1,231 preachers, 1,000 churches, 103,762 members, 79,742 pupils in Sunday-schools, 5,546 baptisms during the year, \$422,800 of contributions; from the missions to the heathen, 1,278 preachers, 954 churches, 112,163 members, 39,981 pupils in Sunday-schools, 6,553 baptisms, \$92,528 of contributions.

Report on Coordination.—A special joint mass-meeting of the societies was held May 23, to consider the report of the Committee on Coordination appointed by the societies at the previous year's meeting. In the voting upon the adoption of the report the parts were separated, and each section was acted upon by itself. The first recommendation, looking to a uniform qualification for delegates, was adopted in such shape as to read, "We recommend that the several societies, after mutual consultation through their executive boards, change their constitutions so as to require the same qualifications as to voters, and that the constitutional changes be submitted at the anniversaries in 1902." The second recommendation, providing for an annual "mid-year" joint meeting of the executive boards or committees of the societies, was passed without debate or division. The third recommendation, for the consolidation of the missionary periodicals into one, was rejected. The fourth section of the report, recommending that all churches recognize the claims of the general societies (Publication, Home Mission, and Missionary Union) for contributions, was opposed by the friends of the women's societies, and was lost. The fifth recommendation, deprecating special appeals, was likewise lost. The sixth section, providing for a committee of nine to consider district secretaryships and collecting agencies, was adopted without objection. The report was then adopted in the shape to which the meeting had reduced it, as a whole.

Education Society.—The Board of Management of the American Baptist Education Society reported at the annual meeting, June 25, that grants had been made during the year to 5 institutions of \$70,000 in all, conditioned on \$235,000 additional being given by their friends. Six institutions had completed the sums, \$180,000 in all, required to secure pledges made by the society. The society had in the year paid \$97,885 to meet \$345,734 raised by 13 institutions. In eleven years it had paid to Baptist educational institutions \$1,001,567, while \$1,867,683 had been collected otherwise for them, making an increase of Baptist educational endowments of \$2,869,250. This result had been made possible largely by the munificence of Mr. John D. Rockefeller. The receipts of the society for the year had amounted to \$103,500, of which \$100,823 were from Mr. Rockefeller. The payments had been \$99,490, leaving a balance of \$4,010 in the treasury.

Historical Society.—At the annual meeting of the American Baptist Historical Society, May 25, good progress was reported as having been made toward replacing the library destroyed in the burning of the building of the American Baptist Publication Society several years before.

Women's Societies.—The annual meeting of the Woman's American Baptist Home Mission Society, auxiliary to the American Baptist Home Mission Society, was held in Concord, N. H., May 1 and 2. Balances were reported by the treasurer of \$311 in the general treasury and \$84 in the Alaska treasury. The reports from the field related to work in the South, Utah, New Mexico, and Alaska, among French Roman Catholics in large manufacturing cities, and to the operations of Hartshorn Memorial College. From the Alaskan mission 13 church-members were returned, with 32 children cared for at the home—an institution the support for which is looked for from the Sunday-schools of New England. A change for the better was remarked in the attitude of the natives. While they had allowed their children to attend school, they had themselves heretofore held aloof from the whites. They had now asked to be admitted to the evening schools. Resolutions were passed by the meeting declaring that the main efforts of the society should be devoted to the work which it had pledged itself to uphold, while causes not directly in that line should be carefully scrutinized; and that its chief purpose should continue to be to promote Christian education and emphasize its importance. Other resolutions urged that every possible means be used to create a public sentiment in favor of a constitutional amendment making polygamy a crime, and defined the position of the society as against the manufacture and sale of intoxicating liquors.

Of the 2,807 auxiliaries of the Woman's Baptist Home Mission Society reported upon at its annual meeting of 1901, 354 were children's contributing organizations. Young ladies had during the past year contributed \$755 for work in Cuba, and girls and boys of junior age \$711, mainly for the support of the kindergarten in the city of Mexico and for the work for Chinese children in San Francisco, Cal. The sum of \$599 had been paid in in the name of the "Baby Band," consisting of 3,817 little folks seven weeks of age and younger, mainly for the support of the Chinese kindergarten in San Francisco.

Southern Baptist Convention.—The Southern Baptist Convention met in New Orleans, La., May 10. The Hon. W. J. Northen, of Georgia, was unanimously reelected president. The first report presented was that of the Foreign Mission Board for its fifty-sixth year. In accordance with the recommendation of the previous convention, the board had at once proceeded to enlarge its work. Twenty-one new missionaries had been sent out during the convention year, important new points had been occupied, and old ones strengthened. The receipts for the year had been \$156,083, constituting the largest contribution ever made by the people represented in the convention to foreign missions. For the fourth year in succession the board was able to report all indebtedness paid, and an appreciable cash balance remained on hand. The Chinese Publication Society at Canton had made some progress, and had been aided by a gift of \$500 from the Sunday-school Board. The establishment of theological training-schools was encouraged. Such schools were now in operation at Canton and Shanghai, China, in Africa, and at San Paolo, Brazil, and arrangements were making for one in Rome. An advance step had been taken in medical work, in the shape of preparations for opening a hospital in north China. It was represented that 87 per cent. of the contributions made to the board go directly to the work in the field, the expenses of management being about 13 per cent. The actions of the missionaries

in China had been governed during the troubles in that country largely by the advice of the representatives of the United States Government there. The missionaries in north China had escaped by going to Chefoo, on the coast, or to Japan. Those in central China not resident in Shanghai had to leave their posts temporarily, and the women in south China had sought places of safety for a season. The missionaries had acted with discretion and fidelity through all the troubles. None suffered bodily harm, though some of their houses were looted and many chapels were destroyed. The native Christians had as a rule been faithful. All the missionaries had now returned to their stations.

The Woman's Missionary Union had contributed \$31,801 to the foreign work during the year—an advance of \$4,043 over the contributions of the previous year. The women missionaries received no salaries, and the expenses they incurred amounted to only \$2,477. The missions under the care of the Foreign Board—in Brazil, Italy, Mexico, China, Japan, and Africa—returned altogether 127 churches, 166 out-stations, 102 missionaries (46 men and 56 women), 41 ordained natives, 130 unordained native helpers, 6,773 members, 1,009 baptisms during the year, 2,294 pupils in Sunday-schools, 70 houses of worship, 35 day-schools with 939 pupils, and \$10,259 of contributions.

The total receipts of the Sunday-school Board for the year had been \$78,381, an increase of \$6,778 from the previous year. It owed no debt, and the surplus on hand was adequate for current needs. The reserve fund had been increased by \$14,000, and now aggregated \$44,000, which were safely invested in interest-bearing securities. The appropriations aggregated, with denominational work, \$16,288, besides the supplies sent in boxes, which were valued at \$8,000. During the ten years of the existence of the board it had made appropriations of \$184,681. It had received \$2,995 for Bible work, and had appropriated 31,554 copies of Bibles, Testaments, and portions of Scripture, valued at \$5,016. The contributions of the Woman's Missionary Union to the board had been, in cash and boxes, \$9,023.

The Home Mission Board reported for its fifty-sixth year 811 missionaries, 2,660 churches and stations, 6,671 additions by baptism, 162 churches constituted, 100 houses of worship built, \$82,542 expended in the building and improvement of houses of worship, 511 Sunday-schools organized, and the details of the personal and other work of the missionaries in their several departments. The State boards of Alabama, Arkansas, Florida, Georgia, Indian Territory, Kentucky, Louisiana, Maryland, Missouri, Mississippi, North Carolina, Oklahoma Territory, Tennessee, Texas, and Virginia were in cooperation in part or the whole of their work. The receipts of the board for the year had been \$86,904 for the regular work, and \$4,110 in special gifts to the Church Building and Loan fund, making a total of \$91,075, as against \$79,366 in 1899. An increase of gifts had taken place in all the States except two. Seventeen missionaries had been employed in work among the negroes in Georgia, Kentucky, Missouri, North Carolina, and Virginia, with a total expenditure of \$2,391. Special emphasis was laid in the report on cooperative work, and special mention was made of the "mountain work" in North Carolina, Georgia, and Kentucky, for which \$2,850 had been appropriated. "Frontier work" was favorably spoken of. Not all that was hoped for had been realized in the matter of cooperative work with the Home Mission Society of the Northern Baptists. Labors

among the foreign population were carried on by one missionary in Baltimore, Md. The work in Cuba did not seem to have been helped by American occupation. The sum of \$11,277 had been spent upon it, and 177 baptisms were reported. The Church Building and Loan fund, which was begun with a contribution from the Woman's Missionary Union, now aggregated \$4,110. The year's contributions of this society to the board had been \$47,437. A committee of nine members on cooperation, appointed at the preceding meeting of the convention, brought in a report, recommending an adherence of the convention to the resolution made one year before to give special emphasis to the object of eliciting, combining, and directing the energies of the whole denomination in one sacred effort for the propagation of the Gospel, and that it avail itself of the educational work of the new-century movement, and the attention and interest that have been awakened, "to press with special vigor *just now* some practicable plan for trying to enlist, as far as possible, every church and every member of every church in this important work." It invited the State associations, conventions, and boards to cooperate in a "vigorous, specific movement of this kind," and to arrange for regular appeals in the district associations; requested the district associations to appoint committees of ways and means for the purpose of securing the interest and contributions of all the several churches in their bodies; and proposed the institution of a special agency, with provision for its expenses, the particular work of which should be to put itself into direct communication with all the State organizations and the district associations in behalf of the plan; to compile lists of the churches supporting the boards, revising them from time to time, for the use of the several boards; and to secure, through all proper agencies, direct communication with every church within the bounds of the convention, in order to induce them to contribute. In connection with this report an offer was presented from a group of Baptists in Baltimore of \$4,000 for the purposes of the proposed commission for three years, conditioned upon the appropriation of \$3,000 by the Sunday-school Board for the same purpose. The discussion of the report in the convention was directed chiefly to the recommendation of a new commission, and this was finally referred to a committee, none of whom should be a member of any of the boards, to report to the next meeting of the convention.

The total contributions of the Woman's Missionary Union to the three boards of the convention were \$88,062.

Meetings of the Southern Baptist Young People's Union were held in connection with the meetings of the convention.

Triennial German Baptist Conference.—The triennial General Conference of German Baptists in North America was held in Berlin, Ontario, Sept. 25 to Oct. 1. Prof. L. Kaiser was reelected moderator. The seven conferences comprised in the body—viz., the Atlantic, Eastern, Central, South-western, Northwestern, Texas, and Pacific Conferences—reported through their representatives advance in numbers and increased financial strength. A report was made representing that during the past year 12 new churches had been organized, making a total of 249 churches, and that the membership had increased to 22,889. The report of the general treasurer showed that a total amount of \$83,426 had passed through his hands. The home mission work was represented as enlarging in all quarters. A new enterprise had been started in South America, and was already

bearing fruit. The educational report showed that within three years 32 students had entered the ministry, and that the seminary (at Rochester, N. Y.), had representatives in Africa, Asia, Australia, Europe, and South and North America. Yet many of the churches were without pastors, and the number of students in the seminary at Rochester was diminishing. About \$80,000 of a subscription undertaken for education had been paid in. A report was made also concerning the publication enterprises of the conference and its newspapers.

A committee, consisting of a representative from each conference, which had had the care of orphans since the connection with the orphanage at Louisville, Ky., was discontinued, reported concerning its efforts to secure the adoption of the orphans of the Church in trustworthy families. A Ministers' Mutual Benefit Association and a General Benefit Association composed of ministers of the German Baptist churches, held their meetings during the period of the sessions of the conference.

Young People's Union.—The tenth annual meeting of the Baptist Young People's Union of America was held in Chicago, Ill., July 25 to 28, John H. Chapman presiding. The treasurer's report showed that the receipts of the union for the year had been \$86,638, and the disbursements a few cents less, while its liabilities were \$18,900. The report of the Board of Managers showed that examination papers had been received from all but 6 of the States and Territories of the American Union, all the provinces of Canada, and Japan, comprising, in all, 3,569 senior and 10,947 junior papers. Some changes had been made in the arrangement of the studies and the examinations. In view of the number of readers who did not take the examinations, it had been decided to have reports of reading. Under the new arrangement the Advanced Bible-Reader's Course will be a four years' study of the 66 books of the Bible, emphasizing the historical background, and the contemporaneous history, the literary character, the doctrinal and practical teachings of each book, and its relation to the whole scheme of biblical revelation. The Advanced Conquest Missionary Course will be a four years' study of missions from the time of Christ to the present day, as carried on by every evangelical body of Christians in all parts of the earth. The advanced Sacred Literature Course will be a four years' study of (1) the history of the canon of the Bible, its principles, methods of interpretation, and present-day questions of its interpretation; (2) the origin, growth, and character of the kingdom of God; (3) Christian doctrines, with biographical studies of the apostles; (4) Christian doctrines, with biographical studies of some of the leaders in the history of the Church. During the past five years the journal the Baptist Union, in addition to bearing all of its own expenses, had paid \$13,270 into the general work of the Young People's Union. Increased efforts were now being put forth to make the paper indispensable to the young people of the churches. The sessions of the convention were given mainly to the hearing of addresses, to conferences, and to "rallies," of which two were held by the German Young People.

Baptist Congress.—The nineteenth annual Baptist Congress was held in the city of New York, Nov. 12 to 14, Prof. Albert S. Bickmore presiding. In his address of welcome to the congress on behalf of the Christian community, Archdeacon Tiffany, of the Protestant Episcopal Church, dwelt upon the benefit which that body had re-

ceived from a similar congress, which had been formed seven years previous to the Baptist Congress. The subjects of The Consolidation of the National Baptist Societies, Modern Evangelism, or Proper Substitutes for the Old-Fashioned Revival, The Function of Penalty in the Christian Religion, The Ethics of Gambling, Cosmopolitanism *versus* Patriotism, and The Keswick Movement for the Deepening of the Spiritual Life, were discussed in papers prepared for the occasion, and in addresses by appointed and volunteer speakers.

Summary of Mission Work.—A History of American Baptist Missions, by Edmund F. Merriam, published by the American Baptist Publication Society, besides accounts of the distinctly foreign Baptist missionary societies (American Baptist Missionary Union and the Foreign Board of the Southern Baptist Convention), gives summaries of the missions of the American Baptist Home Mission Society in Cuba and Porto Rico, of the Home Mission Board of the Southern Baptist Convention in Cuba, and of the aid given to missions in various foreign countries by the American Baptist Publication Society. The extent of all the American regular Baptist mission work outside of the United States is represented by the numbers 585 missionaries, 4,868 native workers, 2,088 churches, and 217,100 members. The whole amount contributed by American Baptists for missions is given in the book as \$1,953,078, of which \$736,112 are for foreign missions and \$1,216,966 for home missions.

Canadian Baptist Conventions.—The Baptist Convention of Ontario and Quebec met at Brantford, Ontario, Oct. 15, Mr. A. McNee, of Windsor, presiding. The report on foreign missions gave an account of the condition of that work in India, where there were 28 missionaries, 9 ordained and 70 unordained preachers, 79 teachers, 8 colporteurs, and 36 native churches with 4,176 members, 352 of whom had been added by baptism during the year; and Bolivia, where 2 new missionaries had been added to the staff and there were a self-supporting school and a college at La Paz with 100 students. The native churches in India had contributed about \$1,270 to the support of the Gospel. Three schools of a higher grade were maintained in the same field. The receipts of the board for the year had been \$30,713, and the expenditures \$36,195, leaving a deficiency of \$5,482. The Committee on Manitoba, the Northwest, and British Columbia reported concerning the growth of the Church in those territories, where there were now 100 organizations, 7,000 members, and \$200,000 worth of church property, and the average contribution was from \$12 to \$19 per member. Fourteen new churches had been erected during the year in Manitoba and the Northwest, and several in British Columbia, and the new college building at Brandon had been opened. The committee's receipts had been \$6,507, with an expenditure of about the same amount, and including \$75 to Scandinavian and \$38 to Indian work. The Ladies' Indian Committee had received \$1,094. The Church Edifice Board reported an income of \$1,544 and an expenditure of \$1,034. Loans had been made to 4 churches. The income of the Home Mission Board had been \$23,549, and its expenditures \$28,007, leaving a deficit of \$4,458. One hundred and twenty-three pastors and 40 students had been employed, serving 350 churches and mission stations, 2 churches had been organized, 3 church buildings erected, about 500 converts baptized, and 4 churches declared for self-support. The Superannuation Board reported 21 annuitants on

its list, 9 of whom were ministers. Its receipts had been \$2,801, and its disbursements \$2,665. Reports were made of the condition, as to finances and students, of McMaster University and Woodstock and Moulton Colleges, all of which returned a total enrolment of 482 students, 63 of whom were studying for the ministry. The Grande Ligne Mission (to the French Roman Catholic population) returned 140 pupils at Feller Institute, 16 of whom had been baptized during the year, and 48 persons baptized in the churches. The total income of the mission had been \$15,664, of which \$2,203 had been contributed from the United States, while the expenses had been \$17,417. The sum of \$24,062 had been further received for the Building and Endowment fund. The Publication Board had received \$14,629 from sales, and returned practically no liabilities. The report on the state of religion showed that the present membership of the churches was 42,975; that there had been 572 baptisms during the year, and that the contributions of the churches had been \$326,747 for home objects and \$68,360 for work abroad. The Sunday-schools returned 36,961 pupils, with an average attendance of 25,529 and 4,491 teachers, 1,192 pupils joined the church during the year, and the total amount of \$22,758 raised, of which \$5,149 were for the various missions.

Convention of the Maritime Provinces.—The Baptist Convention of the Maritime Provinces met at Moncton, New Brunswick, in October. The reports from the churches showed that the number of baptisms in Nova Scotia had been 150 less than in the previous year, while two of the three associations in New Brunswick returned a gain of 50; but in more than half of the churches there had been no additions by baptism. A loss of more than 1,000 members appeared in 5 of the 7 associations from which statistics had come to hand. The receipts for home and foreign missions consisted of \$10,271 contributed through the Woman's Society and \$12,850 from other sources. The schools at Wolfville had had a prosperous year. The question of union of the Baptists and Free Baptists was discussed with much interest, and the convention resolved to invite the Free Baptist brethren to unite with it in foreign mission work.

The Baptists of New Brunswick, while united with those of the other maritime provinces in foreign missionary and educational work, have special interests, confined to their own province, in home missions, Sunday-schools, and the Ministers' Annuity Association, of which home missions are looked after by the New Brunswick Association, while the other causes are under the care of a special provincial convention, the meeting of which for 1901 was held at Hartland.

Baptists in Great Britain and Ireland.—The statistics compiled from the returns of the churches, published in the Baptist Handbook for 1901, give, as the principal numerical items of the Baptists in the British Isles: Number of churches, 2,739; of chapels, 3,918; of chapel seats, 1,323,251; of members, 365,678; of teachers in Sunday-schools, 51,825; of pupils in Sunday-schools, 528,131; of local preachers, 5,564; of pastors in charge, 1,992. These numbers show increases for the year of 35 churches, 48 chapels, 12,835 chapel seats, 12,420 members, 879 teachers and 8,743 pupils in Sunday-schools, 329 local preachers, and 33 pastors in charge. New chapels providing seats for 13,400 persons had been erected at a cost of £109,888, and £53,693 had been spent in improvements to buildings and the erection of new schools, class rooms, etc. Although the special efforts made in behalf of the Twentieth Cen-

tury fund had called for large additional contributions, chapel debts had been reduced by £86,839.

The annual meeting of the Baptist Union of Great Britain and Ireland was held in London in April. The secretary, in presenting the annual report, represented that the year had been one of unprecedented progress, with advance and increase everywhere. While the condition of the denominational funds—the Home Mission fund, the Augmentation fund, and the Annuity fund—could not be pronounced entirely satisfactory, the fact was to be accounted for by the special efforts which had been made in connection with the Century fund. The whole amount of this fund not having yet been promised, it had been determined to extend the period allowed for the collection of it, and instead of closing it Dec. 31, 1901, to keep it open to the close of the current presidential year. The total amount promised was £175,000, leaving £75,000 yet to be secured, while £100,000 had been received in cash. The report of the Baptist Missionary Society showed that the receipts for the general work of the missions, excluding all special funds, had amounted to £67,954, and the expenditure to £77,870. The receipts had been £1,361, and the expenditure £4,153 larger than in the previous year. A further amount of £4,123 had been contributed in liquidation of the debt of 1899-1900; but a deficiency of £9,915 still remained. The excess of annual expenditure over receipts was explained to be wholly due to the recent increase of missionary agency, 40 additional missionaries having been placed upon the staff of the society since the celebration of its centenary. The total receipts for the year, including special funds and a special gift of £10,000 by the late Mr. Robert Arthington for work in Central Africa, had amounted to £98,240, the largest total ever received by the society apart from the Centenary fund. The missionaries in China were returning to their posts after the troubles, and the attitude of the Chinese authorities seemed to be friendly. The record of the Congo Mission was described as having been "marvelously full of encouragement and inspiration." Satisfactory reports were given as to other fields occupied by the society. The Zenana Mission returned a staff in India of 64 missionaries and 200 native workers, with about 1,500 zenana pupils, 3,000 houses open for regular visitation, 640 villages visited for evangelistic purposes, and 93 girls' schools with 3,700 pupils. One of the missionaries in China had been murdered during the troubles. The receipts of the general fund had been, including special gifts of £865, £12,189, and the expenditures £13,018. The Legacy Reserve fund was exhausted, but a memorial gift of £1,000 had been placed as a special reserve fund to meet working expenses. The report of the Bible Translation Society showed that 655,000 Scripture portions and other publications had been issued from the Calcutta and Cuttack presses, and a very large amount of colportage work had been carried on at various stations. The progress of the revision of the Singhalese Old Testament was referred to. The balance-sheet showed an income of £1,537 and an expenditure of £1,484, with subscriptions £347 higher than in the previous year. The balance of the reserve fund stood at £1,306.

The Baptist Building fund, by means of the constant turnover of its capital, now amounting to £54,267, had been enabled during the year to make grants of sums varying from £700 to £70 for building purposes. The amount lent to the churches was £123 in excess of the loans of any previous year.

The memorial stone of the Baptist Church

House in London was laid during the season of the meetings of the union, under the direction of the president of the union, the Rev. Dr. Maclaren. The building will have a frontage of 80 feet on Southampton Row and 140 feet on Eagle Street, and is intended to accommodate the offices of the Baptist Union, and to provide library rooms, a large council chamber, quarters for the various Baptist societies and institutions, a ladies's room, and a visitors' room, where visiting friends may be entertained.

The autumnal meeting of the union was held in Edinburgh in the second week in October. In the absence of the Rev. Joseph Parker, D. D., the appointed preacher, whose health did not permit his making the journey from London, the missionary sermon was preached, Oct. 8, by the Rev. R. J. Campbell, of Brighton, on the subject of Christ's Cosmical Significance. The statement was made in behalf of the society that it was compelled to turn a deaf ear to urgent calls for reinforcements, because of the annual deficit of £10,000 which had been the rule for three or four years past. "Soon, unless the Baptists filled up the deficit, it would be not merely a question of sending reinforcements, but of recalling missionaries." Nineteen missionaries were returning to their fields, and 3 new ones were sent out. The meeting of the union proper was opened, Oct. 9, with an address on Evangelical Mysticism, by the president, the Rev. Alexander Maclaren, D. D. At a reception given to "Ecumenical Baptist Delegates," representatives of Baptist churches in the United States, Canada, Australia, New Zealand, South Africa, the Cape Verde Islands, Jamaica, France, Italy, Germany, Holland, and Sweden were greeted as guests of the union. A report made concerning the Twentieth Century fund represented that of the £250,000 which the union had started out to raise, £185,414 had been promised, of which £121,600 had been paid. One thousand and ten churches were contributing to the fund, while 567 churches having 57,000 members (many of them, however, not connected with the union), had not yet come into the scheme. A Baptist Women's Twentieth Century fund had been formed, and would attempt to collect 1,000,000 shillings toward completing the little more than £65,000 which still remained to be raised. The subject of the autumnal sermon, by the Rev. Dr. Alexander Whyte, of Edinburgh, was Marrow Men. Addresses were delivered on The Place of Baptists in the Progress of Christianity, by the Rev. Dr. Clifford; Great Laymen who have Served the Church, by Mr. G. W. Macalpine, of Accrington; Christian Reunion and Denominationalism, by the Rev. Charles Brown; The Highest Churchmanship, by the Rev. F. B. Meyer; and an address by the Rev. Dr. John Smith, Presbyterian. Other meetings were held in behalf of the Zenana Mission and the young people.

The South African Baptist Colonial and Missionary Aid Society has been formed for the purpose of arousing interest in and collecting funds for the European and native work of the South African Union; to be a board of reference to obtain suitable men as ministers and missionaries in South Africa; and to represent the South African Union at the annual assemblies of the Baptist Union of Great Britain and Ireland. This has been done in accordance with resolutions passed by the South African Baptist Union at its annual meeting in Grahamstown. This body further determined that the promotion of the work in the Transvaal and Orange river colonies should be a first charge upon all moneys collected by the society up to June 30, 1902.

Baptists of the Netherlands.—The Baptists of the Netherlands began to hold general meetings about 1880, and now have a regular organization called the Union of Churches of Baptist Christians in the Netherlands. They have 13 churches, and the annual meeting of 1901, which was held at Sneek, was attended by 26 pastors and delegates, and about 30 visitors from Germany, South Belgium, and England, as well as from Holland. Two additional churches had joined the union during the year. About \$300 had been contributed for missions, and the money was sent to the German Baptist missions in Cameroons, on the Congo, and in North Africa. About \$500 had been contributed to home mission work. The union decided to begin colportage work in Belgium and in parts of northern France.

Baptist Conference in Sweden.—The first Baptist church in Sweden was founded in 1848, with 6 members. The conference of 1901 was held at Orebro, in the province of Nerike, in September. The statistical reports represented 19 district associations, with 566 churches, 390 houses of worship, 7 new ones having been built during the year, 753 preachers, of whom 250 gave all their time to ministerial labor, 41,101 members, 1,704 baptisms during the year, 663,133 kronor contributed for church and missionary purposes, and church property valued at 3,159,033 kronor, against which stood 962,784 kronor of indebtedness; and 934 Sunday-schools, with 3,482 teachers and 46,172 pupils. The Committee for Foreign Missions reported 4 missionary stations in the Russian Empire, 1 in Spain, 1 in China, and a missionary family on the Congo working in connection with the American Baptist Missionary Union, which is sustained by Swedes. The mission in China had not suffered by the riots of the war, but was reported as prosperous, with a new church built at Kiaw-Chew, and several Chinese baptized by the missionaries. Several of the Swedish Baptists were expecting to visit the United States in 1902 to participate in the celebration of the fiftieth anniversary of the organization of the first Swedish Baptist church here, Sept. 26, 1852.

BELGIUM, a constitutional, representative, and hereditary monarchy in western Europe. The legislative power is vested in the Senate and the Chamber of Representatives: Senators are elected for eight years, half of them being replaced every four years. The number is half that of the Chamber, which is regulated according to the census in the ratio of 1 Deputy to 40,000 inhabitants. The Chamber of Representatives in 1901 contained 152 members, the Senate 76. Of the Senators 26 are elected by provincial councils, the rest directly by the people. Candidates for popular election must be taxpayers to the amount of 1,200 francs, or possess real estate worth 12,000 francs a year. Members of the Chamber of Representatives are elected for four years, half of them being renewed every two years. Every citizen over twenty-five years of age, possessing full civil rights, and domiciled for one year in his district, has one electoral vote, and can cast a supplementary vote if he is thirty-five years of age, married or a widower with legitimate issue, and pays 5 francs of direct taxes, or if he possesses real property of the value of 2,000 francs or investments in public funds yielding 100 francs a year. If he is a graduate of an institution of higher education or holds or has held public office or holds any position implying the possession of education he can cast two supplementary votes. The number of votes for members of the Chamber in 1900 was 2,239,621, cast by 1,452,232 electors; the num-

ber for Senators was 1,994,153, cast by 1,227,520 electors.

The reigning sovereign is Leopold II, born April 9, 1835, who on Dec. 10, 1865, succeeded his father Leopold I, a prince of Saxe-Coburg, who was elected the first King of the Belgians by a National Congress on June 4, 1831, after the secession of Belgium from the Netherlands. By the treaty of London, signed on Nov. 15, 1831, Austria, Great Britain, Prussia, and Russia guaranteed the perpetual neutrality of Belgium. The heir to the throne is Philippe, Count of Flanders, born March 24, 1837, the King's only brother, who has one son living, Prince Albert, born April 8, 1875. The Council of Ministers appointed on Aug. 5, 1899, was composed as follows: President and Minister of Finance and Public Works, Count de Smet de Naeyer; Minister of Foreign Affairs, P. de Favereau; Minister of the Interior, M. de Trooz; Minister of Justice; M. van den Heuvel; Minister of War, Gen. Cousebant Alkemade; Minister of Agriculture, Baron van der Bruggen; Minister of Railroads, Posts, and Telegraphs, M. Liebart; Minister of Industry and Labor, Baron Surmont de Volsberghe.

Area and Population.—Belgium has an area of 11,373 square miles. The population on Dec. 31, 1899, was estimated at 6,744,532, composed of 3,363,436 males and 3,381,096 females. The number of marriages in 1898 according to the corrected reports was 55,444; of births, 190,921; of deaths, 117,457; excess of births, 73,464. The decennial census of Dec. 31, 1900, shows a population a little over 6,800,000.

The number of immigrants in 1899 was 26,364 and of emigrants 22,957, showing a net immigration of 3,407.

Finances.—The ordinary revenue of the Government in 1898 amounted to 439,282,000 francs, and expenditure to 426,012,000 francs. In 1899 the ordinary revenue was 466,728,000 francs. The budget presented for 1901 makes the ordinary revenue 488,429,760 francs, and the ordinary expenditure 488,047,973 francs. Of the revenue property taxes were expected to yield 26,144,000 francs, personal taxes 21,289,000 francs, trade licenses 8,600,000 francs, mines 2,200,000 francs, customs 43,120,166 francs, excise taxes 65,450,500 francs, various taxes 2,902,000 francs, registration and other fees 30,200,000 francs, succession duties 19,720,000 francs, stamps 8,700,000 francs, fines, etc., 913,000 francs, rivers and canals 2,030,000 francs, railroads 206,000,000 francs, telegraphs 9,640,000 francs, the post-office 15,783,620 francs, pilotage 1,460,000 francs, domains and forests 3,537,000 francs, bank and other profits 15,871,800 francs, and repayments 4,868,174 francs. Of the total ordinary expenditure the interest and sinking fund of the debt absorbed 130,730,570 francs, the civil list and dotations 5,047,990 francs, the Ministry of Justice 26,544,900 francs, the Ministry of Foreign Affairs 3,159,168 francs, the Ministry of the Interior and Public Instruction 30,563,950 francs, the Ministry of Agriculture 11,967,309 francs, the Ministry of Industry and Labor 16,250,150 francs, the Ministry of Railroads, Posts, Telegraphs, and Telephones 164,560,412 francs, the Ministry of War 55,339,316 francs, the Ministry of Finance and Public Works 34,652,345 francs, the gendarmerie 7,155,863 francs, repayments, etc., 2,076,000 francs.

The capital of the public debt on Jan. 1, 1900, was 2,604,255,114 francs, comprising three series of 3-per-cent. *rentes* and Belgium's share of 219,959,632 francs in the old debt of the Netherlands. The 3-per-cent. *rente* of 84,798 francs a year under the head of military obligations has a capital

value of 2,826,536 francs, making the total 2,607,081,600 francs. The debt charge in 1900 amounted to 127,900,416 francs, including not only interest at 2 1/2 per cent. on the share of Belgium in the Netherlands debt, and interest and amortization of the 3-per-cent. *rentes*, but 2,500,000 francs for interest on temporary loans for extraordinary expenditures, 380,634 francs for annuities to the city of Brussels and the Duke of Wellington, 144,550 francs for annuities in the Netherlands, 1,751,930 francs for instalments on the price of railroads, 3,120,410 francs on railroad debts assumed by the state, 8,471,837 francs on debts incurred in completion of railroads, 612,000 francs annual instalment for seventy years from 1870 on the rolling-stock of railroads, 750,859 francs annual instalment for the telephone system, 1,105,000 francs for a fund for the construction of local railroads, 150,000 francs of guaranteed interest, 136,000 francs for various expenses, 4,882,000 francs for military pensions, 7,652,973 francs for civil pensions, 2,825,000 francs for teachers' pensions, 9,200,000 francs for the militia, and 2,153,050 francs for interest at 3 per cent. on caution money and other deposits.

Commerce and Production.—The special imports in 1899 had a total value of 2,260,200,000 francs; special exports, 1,949,000,000 francs; transit trade, 1,402,300,000 francs. The special imports of grain and flour were 343,700,000 francs; of wool, 187,200,000 francs; of wood, 123,400,000 francs; of gums, 96,400,000 francs; of hides and skins, 96,000,000 francs; of chemical products, 71,700,000 francs; of seeds, 69,200,000 francs; of coal, 52,600,000 francs; of animals, 48,200,000 francs; of iron, 41,600,000 francs; of drugs, 40,900,000 francs; of machinery and vehicles, 40,600,000 francs; of coffee, 39,400,000 francs; of flax, 36,500,000 francs; of colors, 34,300,000 francs; of cotton, 31,800,000 francs; of cotton manufactures, 31,800,000 francs; of wine, 27,800,000 francs; of animal fats, 24,100,000 francs; of vegetable oils, 22,400,000 francs; of woollens, 22,200,000 francs; of butter and cheese, 21,200,000 francs; of fish, 2,500,000 francs. The special exports of coal were 120,500,000 francs; of machinery and vehicles, 111,200,000 francs; of grain and flour, 93,300,000 francs; of iron, 92,700,000 francs; of skins, 89,900,000 francs; of glass, 87,800,000 francs; of linen yarn, 79,600,000 francs; of cut diamonds, 67,000,000 francs; of sugar, 62,800,000 francs; of zinc, 53,200,000 francs; of woolen yarn, 50,100,000 francs; of flax, 48,500,000 francs; of chemical products, 46,400,000 francs; of minerals, 44,300,000 francs; of fertilizers, 39,600,000 francs; of animals, 34,700,000 francs; of seeds, 34,200,000 francs; of gums, 33,000,000 francs; of colors, 30,900,000 francs; of cotton cloth, 25,400,000 francs; of meat, 23,200,000 francs; of animal fats, 22,000,000 francs.

The special trade with the different foreign countries in 1899 is shown in the table above, giving the values of imports for consumption and exports of domestic merchandise in francs.

Of the total area of Belgium about 65 per cent. is arable land, 18 per cent. forest, and 17 per cent. river, marsh, roads, and waste. Less than 19 per cent. of the people are engaged in agriculture. The yield of wheat in 1898 was 4,210,000 hectoliters; of barley, 1,302,031 hectoliters; of oats, 12,238,231 hectoliters; of rye, 7,296,932 hectoliters; of potatoes, 32,161,916 quintals; of sugar-beets, 15,071,981 hectoliters; of other beets and turnips, 16,393,133 hectoliters; of tobacco, 35,270 quintals. The production of raw sugar in 1898 was 188,026,000 kilograms; of refined sugar, 66,725,000 kilograms; of proof spirit, 593,340 hecto-

COUNTRIES.	Imports.	Exports.
Germany.....	285,400,000	485,500,000
France.....	389,700,000	345,800,000
Great Britain.....	312,000,000	360,700,000
Netherlands.....	169,000,000	214,800,000
United States.....	280,100,000	65,400,000
Russia.....	191,900,000	43,600,000
Argentine Republic.....	148,200,000	19,600,000
British India.....	84,700,000	15,300,000
Sweden and Norway.....	62,200,000	23,800,000
Spain.....	43,600,000	35,500,000
Australia.....	63,800,000	10,500,000
Italy.....	52,000,000	11,000,000
Brazil.....	38,700,000	9,200,000
Congo State.....	5,200,000	41,800,000
Switzerland.....	35,300,000	8,200,000
Roumania.....	30,300,000	4,900,000
Chile.....	11,300,000	12,600,000
Turkey.....	2,000,000	20,700,000
Egypt.....	16,500,000	1,700,000
Uruguay.....	2,000,000	800,000
Peru.....	32,000,000	41,700,000
Rest of Europe.....	37,900,000	69,300,000
Other countries not specified.....	.....	67,000,000
Total.....	2,260,200,000	1,949,300,000

liters. The value of fish caught was 3,857,279 francs.

Navigation.—The number of vessels entered at Belgian ports during 1899 was 8,672, of 8,632,626 tons, of which 765, of 352,464 tons, were sailing vessels and 7,907, of 8,280,162 tons, were steamers. The number of vessels cleared in 1899 was 8,581, of 8,521,331 tons, of which 750, of 340,777 tons, were sailing vessels and 7,831, of 8,180,554 tons, were steamers.

The mercantile navy on Jan. 1, 1900, consisted of 6 sailing vessels, of 2,751 tons, and 67 steamers, of 105,786 tons. There were 381 fishing boats, of 3,826 tons.

Railroads, Posts, and Telegraphs.—The railroads at the end of 1899 had a total length of 2,850 miles, of which 2,521 miles were operated by the Government and 329 miles by companies. The number of passengers on the state railroads in 1899 was 114,858,223, paying 64,853,772 francs of the gross receipts of 201,229,218 francs. The expenses were 118,661,088 francs; cost of construction, 1,884,033,112 francs.

The post-office in 1899 carried 130,202,227 private letters, 57,800,288 postal cards, 24,119,478 official communications, 127,701,208 newspapers, and 114,924,160 book packets; receipts were 23,995,997 francs, and expenses 12,806,997 francs.

The telegraphs in 1899 had a total length of 3,958 miles, with 20,840 miles of wire. The number of internal despatches was 3,300,944; of international despatches, 3,363,927, including 567,320 in transit; of service despatches, 5,886,000; receipts were 8,783,017 francs, and expenses 6,372,931 francs. There were 91 urban telephone circuits with 22,340 miles of wire, and the number of conversations was 34,469,019; the interurban systems had 8,378 miles of wire, and the number of conversations was 566,590.

The Session of the Chambers.—A bill to regulate gambling, introduced by the Government and discussed by the Chamber in the early months of 1901, was intended to put an end to the public scandal of high play without destroying the prosperity of Belgian watering-places. The governments of France and Spain offered to co-operate with Belgium in drawing up an international code for the regulation of public casinos in their respective countries or, if found advisable, to suppress them altogether. The Government proposed special dispensations in favor of the casinos at Ostend, Spa, Namur, and Dinant, but the Chamber by a majority of 81 rejected the motion, and again refused to grant to the sea-bathing resorts an extension of their privileges for

two years when the bill was amended by the Senate to that effect. The prohibitory clause in the bill forbids all gambling in public places where stakes are generally known or are of sufficient amount to make them an object of gain.

A clause prohibiting games of chance in private as well as in public places was rejected by the Senate. The question of compensating Ostend and Spa, which had made public improvements on the strength of revenues derived from the gaming-tables, was laid over by the Senate for further discussion. When the Government old-age pension act went into force 175,000 old people applied for the pension, which is 65 francs a year, payable semiannually. A bill framed by the Government and passed by the Chambers changes the principles governing accidents to workmen and employers' liability. Under the old bill a workman claiming compensation had to prove negligence on the part of the employer. The new act provides that in all cases of disability extending beyond two weeks the employer is bound to pay half wages so long as total incapacity lasts, or, in case of partial incapacity, half the difference in earnings. Employers have the liberty of insuring their risks in the Government savings-bank or in private companies; if one does not do so he must pay a certain amount into a state bank or an insurance company approved by the state to provide for future compensation to workmen. The new bill extends the principle of compensation, hitherto confined to accidents from machinery worked by motive power, to those caused by agricultural machinery when it is driven by an elemental force. King Leopold having offered to give to the nation the greater part of the royal domains throughout Belgium, the Chamber of Representatives voted to accept the gift, but the Senate postponed action in order to determine the status of certain communes in the Ardennes. The Government agreed to grant amnesty to political offenders and persons convicted of misdemeanors connected with strikes, not including acts of violence. A Socialist motion to increase the pay of letter-carriers, which is only 2½ to 4 francs a day, was rejected. A bill was adopted granting higher pensions to teachers and admitting classes previously excluded. The Socialists interpellated the Government regarding instructions a general was said to have given to the civic guards to fire on the people in case of riot, and the Government's position that good citizens should prepare to resist rioting was sustained by the votes of the Right alone, the Moderate Liberals abstaining.

The question of military reform was referred to a military commission, and on its report was based a bill presented by the Government. The commission was appointed in order to appease a feeling of alarm at the inadequacy of Belgium's defenses and a growing sentiment in favor of personal service. The Belgian Government formerly, even when it did not neglect military affairs, relied for the security of Belgium mainly on the guarantee of the neutrality and inviolability of Belgian territory by the adjoining powers. In recent years military experts have impressed the people with the idea of the instability of treaty rights and with the necessity of being able to assert and defend Belgium's neutrality. In 1870 France and Germany, on opening hostilities, both invited Belgium to defend her frontier. Before the Franco-German War Antwerp was held to be the most important stronghold, the plan being in case of attack to concentrate supplies there and await assistance from outside. Since then strategists have recognized the Meuse valley as the key of the situation, and accordingly earthworks were

erected at Liège and Namur. The idea of a central citadel was not abandoned. Gen. Brialmont favored strengthening the inner ring of fortifications, which have become obsolete. The military commission pronounced in favor of the scheme already accepted by the Government of erecting a chain of forts extending in a semicircle 25 miles round the city. The demolition of the existing fortifications, constructed in 1859, was decided on, giving room for the city to expand and providing part of the means for defraying the cost of a new inner line of forts of greatly improved type, which would absorb 41,000,000 francs in addition to the value of the site of the old forts. The fortification of the right and left bank of the Scheldt was deemed urgent, also the strengthening of the batteries at Termonde, but the fortress of Diest was regarded as no longer necessary. The principle of an effective armed neutrality was approved without qualification; yet when it came to actual army reform the Government was afraid to offend the mass of the Clerical voters by abolishing substitution or materially enlarging the army on the peace footing. The commission recommended that the annual contingent of 13,300 men be increased to 18,000, considering this to be rendered necessary by the reduction of the term of active service to twenty-two months for infantry and six months for cavalry and artillery. Otherwise the peace strength of 47,000 men could not be maintained unless more volunteers could be attracted to active service. The Government decided to keep the annual levy of conscripts at the same figure as before and to hold out inducements for volunteers to be embodied with the conscripts and counted in the annual contingent. The principle of personal service, though recommended by the commission, was discarded. The sum to be paid for a substitute was reduced from 1,600 francs to 1,000 francs or less. Encouragement is given to volunteering by the offer of the same pay to volunteers as is given to regulars. One-year volunteers up to the number of 2,000 may be engaged without remuneration with the privilege of living at home or choosing their garrison town. Soldiers are not to be detailed for non-military duties, but will be trained in military duties throughout the shortened term of service. Preference in civil employments will be given to men who have served in the army in any capacity. The principle on which the army will be recruited is voluntary enlistment, not conscription, the annual levy in any district being fixed at the number required to fill out the contingent. The principle of volunteering is introduced in a country where conscription has been customary since the army was first created, adopted altogether as an experiment in direct defiance of the agitation that called for army reform. The war strength of the army is expected to be increased by the extension of volunteering and the reduction of the period of service with the colors from 145,000 to 180,000 men. The total period of service is eight years in the active army and five years in the reserves, which can only be called out in case of war. Volunteers are divided into those who choose the military profession, those who volunteer to draw for the contingent, those who offer themselves as substitutes, and those whose condition entitles them to special remuneration. All classes rank as regulars in regard to term of service and pay.

The Chambers had to decide in the session of 1901 the question of annexing the Congo State. Under the option of 1890, if the decision should be against annexation the loan of 25,000,000 francs made by Belgium to the Independent State would be repayable after a further period of ten years.

but with interest added. The advances under the conventions of 1890 and 1895 were made to extricate the Congo State from financial difficulties, but now that its finances were in a flourishing condition the sovereign was reluctant to submit the administration to the caprices of parliamentary majorities. As there was opposition to annexation in certain sections of the Belgian people, M. de Smet de Naeyer proposed to adjourn the question for a further term of ten years, and in the meantime to allow the loan to stand over without interest. Ex-Premier Beernaert opposed this project, believing that the rights of Belgium would lapse. Even the Socialists, opponents of colonial expansion hitherto, demanded the assertion of those rights or a new convention to preserve them. M. Beernaert proposed a bill declaring the annexation of the Congo State and providing for the continuance of the existing administration for a year, during which the Legislature should decide on a special *régime*, legislative, administrative, and judicial, for the new Belgian possession. This would likely have been carried had not the sovereign intervened, declaring in a letter to M. Woeste that the Congo administration would naturally refuse to participate in that sort of hybrid government which would be chaos and would produce friction and loss, both externally and internally; and stating that the time had not yet arrived when the Free State was able to assure to Belgium all the advantages that he desired should accrue to her, while, on the other hand, Belgium was for the moment unable to set up a substitute for the present administration. This declaration was tantamount to a threat of resignation as sovereign of the Free State if the annexation scheme were pressed. M. Beernaert withdrew his proposals, and a Government bill was presented, preserving Belgium's right of annexation by reaffirming the option and suspending financial relations between Belgium and the Congo State, thereby wiping out the various loans advanced by Belgium in the event of annexation. It was thus left to King Leopold to choose the moment when he shall transfer the Free State and under what conditions. The principle was admitted by both Chambers that the organic law of the new colony must be elaborated and approved by the Legislature before annexation, but the ministers intimated the kind of administration on which the sovereign will insist, which will be one entrusted entirely to the executive power, with native affairs left completely under his own control, the only intervention of Parliament to be in financial affairs, and in those it should have only the right to make suggestions, not to vote the budget. An annual report of the financial and economical condition of the colony will be submitted to the Belgian Chambers for formal approval, and only when it is a question of borrowing or other matter affecting Belgian taxpayers will the Legislature be called upon to take action, while King Leopold will exercise the same supervision and control that he has as sovereign of the Free State. Before the passage of the Government bill perpetuating the right of annexation, but postponing indefinitely its consummation, the French Government, which under the treaty of 1884 acquired a right of preemption, gave an assurance that it would in no way contest Belgium's right to annex the Congo territories. The total amount of the advances remitted to the Congo State as the condition of keeping the right of annexation alive is about 32,000,000 francs. The bill was passed. In the event of the King's death the Congo is definitely secured to Belgium by the King's testament.

Agitation for Electoral Reform.—More important than any question that came before Parliament was the question of suffrage which the Socialists brought to the front by a lively popular agitation. At their annual congress in April they decided to continue the struggle for the abolition of plural voting by every possible means, including, if necessary, a universal strike and street agitation. The fruit of the universal strike of 1893 in favor of universal suffrage pure and simple was the present electoral law establishing universal suffrage complicated with plural voting. This was voted in 1894 by the Catholic party then in power with M. Beernaert as Prime Minister. The tax qualification giving two votes shuts out 765,000 family men of the working class, about 70 per cent. of the total number, and the professional qualification for the triple vote gives disproportionate influence to ecclesiastics, who constitute one-sixth of the 42,000 electors so privileged. The Moderate Liberals in the former campaign for electoral reform were more averse to universal suffrage than the Clericals, who granted it because the Flemish peasants would strengthen their party as much as the working-class vote of the Charleroi and Liège districts would increase the Socialist representation, while the Liberals, their real political rivals, would derive from it little accession of voting strength. Now the Moderate Liberals were willing to support the Socialist demand. The Clerical majority, which has been preserved through the various changes in the suffrage and representation laws since 1884, has aroused much opposition by its legislation, and can hardly overcome a fusion of Liberals and Socialists at the polls. The education bill passed in 1895, prescribing religious instruction in the communal schools, unless parents apply for a special dispensation on the ground of religious scruples, this latter clause having been inserted in deference to public opinion, was never put into operation in communes where Liberalism is strong until 1901, and then only in a modified form. In Brussels the communal authorities rejected the list of priests nominated as religious instructors, and the Government law officers acknowledged that the communal council has complete administrative autonomy in school matters. The applications for special dispensation were so numerous in Brussels that religious instruction became a farce. The ministry narrowly escaped defeat in the Chamber on the question of text-books. Thus the revolt against secular education that brought the Catholic party into power has lost its motive and its energy. The Government in 1899 attempted to force through Parliament a redistribution bill that would rearrange the constituencies in such a way as to secure a permanent Catholic majority. The Moderates and Socialists saw through the maneuver, and the bill aroused such hostility that rioting took place in the streets of Brussels, and the Government yielded before the popular storm. The election of 1900 was held under the system of proportional representation enacted on Dec. 29, 1899. Voting is by *scrutin de liste*. The number of seats allotted to each party is proportioned to the number of times the total party vote contains the electoral divisor, obtained by dividing the total number of registered voters by the number of tickets in the field. Parties whose list of candidates obtains a less number of votes than the electoral divisor are left out of the representation, and thus second ballots are unnecessary. In the election of 1900 the Clericals won 85 seats, the Liberals and Radicals 33, and the Socialists 34, reducing the working majority of the Government from 70 to 18. In the session

of 1901 the electoral question was brought up by M. Janson, who proposed to take the opinion of the country on universal suffrage and the application of proportional representation to all elections by means of a referendum. The motion obtained 50 votes, and was rejected by a majority of only 35, although there is no provision in the Constitution for a popular referendum, which the Ministerialists described as a dangerous and revolutionary device. The Socialist party in a manifesto threatened revolution if pacific means should fail to bring about the system of one man one vote. On July 30 the Socialists in the Chamber enacted an episode of unprecedented obstruction and disorder. The Radicals and the Moderate Liberals agreed to unite with the Socialists in the campaign to secure the desired electoral reform before or by means of the election of 1902, after which Socialists and Liberals will resume their liberty of action.

BOLIVIA, a republic in South America. The Congress consists of a Senate of 18 members, 2 from each department, elected for six years, one-third being renewed biennially, and a House of Representatives containing 69 members, elected for four years, one-half being renewed biennially. The President and Vice-Presidents are elected for four years by direct popular suffrage. The President for the term beginning Aug. 6, 1899, is Gen. José Manuel Pando; the Vice-Presidents are Col. Lucio Peres Velasco and Dr. Anibal Capriles. The Cabinet in the beginning of 1901 was composed as follows: Minister of Foreign Affairs and Worship, Dr. Eleodoro Villazon; Minister of Finance and Industry, Dr. Demetrio Calvimontes; Minister of the Interior, Carlos V. Romero; Minister of Justice and Public Instruction, Samuel Oropeza; Minister of War and Colonization, Col. Ismael Montes.

Area and Population.—The area of Bolivia is 567,430 square miles. The population is estimated at 2,270,000, including about 250,000 uncivilized Indians.

Finances.—The revenue was estimated in the budget for 1900 at 7,331,400 bolivianos, and expenditure at 7,930,188 bolivianos. The foreign debt in 1900 amounted to 6,550,830 bolivianos, the internal debt to 3,934,250 bolivianos.

The Army.—The active army comprises 2 battalions of infantry, each consisting of 220 men divided into 4 companies, 2 regiments of cavalry, 2 regiments of artillery, 1 battalion in garrison in each department, and the military college, the total strength being 2,975 men. The National Guard, in which obligatory service for two years is prescribed by law, numbers 82,560 men, divided into three classes.

Commerce and Production.—The value of imports in 1899 was 12,839,962 bolivianos, and of exports 27,365,747 bolivianos. The production of rubber is increasing, much of it coming from the Acre district, the export in 1898 reaching 3,000 tons. The value of coca exported annually is about 3,000,000 bolivianos. The production of silver in 1898 was 9,961,433 ounces, and in 1899 it was 11,155,190 ounces. The annual production of concentrated tin ore is over 4,000 tons, and in 1899 the export of bars was 2,000 tons. About 3,000 tons of copper ore were exported. The value of silver exported was about 10,000,000 bolivianos; of rubber, 8,000,000 bolivianos; of tin, 5,000,000 bolivianos. Other exports are wool, cattle, hides, and coffee. Of the imports 27 per cent. come from Germany, 11 per cent. from Chili, 9 per cent. from Great Britain, 9 per cent. from France, and 8 per cent. from the United States. Of the exports 44 per cent. are shipped to Great

Britain, 35 per cent. to Germany, and 6 per cent. to France.

Railroads, Posts, and Telegraphs.—The length of railroad in operation in 1900 was 604 miles.

The postal traffic in 1899 was 1,181,683 pieces in the internal and 536,226 in the international service; receipts were 369,715 francs, and expenses 489,173 francs.

The telegraphs in 1899 had a total length of 2,254 miles, with 4,125 miles of wire.

BOOKBINDING, SPECIAL AMERICAN.

The binding of a book, though attractive to some, has had little or no significance to a very large number of persons. The majority of men could not tell the difference between a commercial or machine-made binding and a special or hand-made binding, and if the ordinary reader of the latest ephemeral but transiently popular novel were asked to pay \$500 for a binding, even though it had been executed by a Cobden-Sanderson, he would feel sure that the price was extortionate, and that he was being robbed. The mass of book-readers consider that bookbinding belongs to the publisher rather than to the purchaser of a book. Cloth is good enough for them, especially when the decorations are so ornate, as is now so frequently the case in edition binding. They know nothing of the charms of Levant morocco, tree calf, pigskin, vellum, and the like, which are curiosities to them, nothing more. It is only within very recent years that a binder whose ordinary price for covering a book with leather and for finishing it with inlay and gold tooling exceeded \$50 could have found it possible to secure enough patronage to maintain an establishment. Prior to 1875 the book world had been content with a simplicity that was severe. Our forefathers dressed the New England Primers in real board covers, which were again covered with paper, pasted on. Similar bindings of thin wood appeared upon that standard book Locke on the Understanding. With the passing of bindings of this kind a dull covering of calf came into use which now lingers in multiple specimen form upon the bargain-counters of dealers in second-hand books.

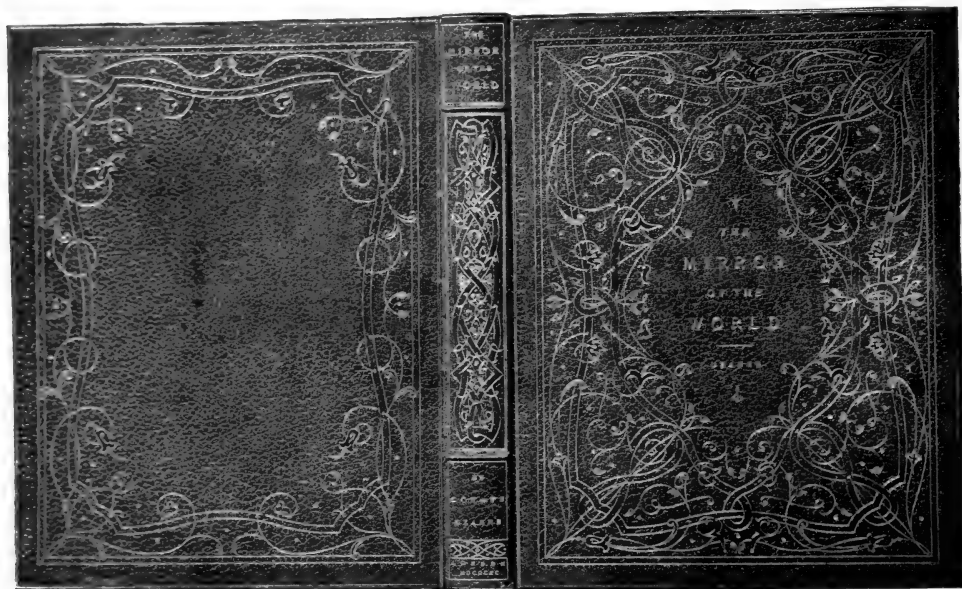
The time came when collectors of books had special bindings placed upon the volumes they cherished, but to have this done properly the books had to be sent to French or to English binderies, and be subject to the perils of two transatlantic voyages. Pioneer work in fine American bookbinding was perhaps done by William Matthews, who exhibited a copy of Owen Jones's *Alhambra* in this class of binding at the New York World's Fair in 1853. Many notable bindings were afterward executed by him, and his reputation as a special binder is exceedingly enviable. Following him not quite thirty years later, Otto Zahn, a binder who had studied and practised the art of fancy bookbinding in many lands, found enough encouragement to come to this country. He finally established himself in Memphis, Tenn., where he has since remained, and where he now binds for book-collectors of note throughout the United States. So great has become the demand for bindings of this class that Mr. Zahn has been obliged to limit his personal binding of books to those the minimum price of which is \$100.

Other bookbinders that are or have been well known in the practise of their art in this country are as follow: Smith, McDonald, Blackwell, Pfister, Kuster, Lauder, Stikeman, the Club Bindery, and Schleuning & Adams, in New York; Sanford, in Pittsburg; P. Ringer and Hertzberg, in Chicago; Peter Verburg, a pupil of Miss E. G. Starr, in

Chicago; Dudley & Hodge, in Boston; and the Roycroft Shop, East Aurora, N. Y. A large number of women have taken up the art, of whom the late Miss Evelyn Hunter Nordhoff was the pioneer. Others are Miss Ellen G. Starr, of Chicago; Miss Mary E. Bulkley, of Hillside, Mo.; Miss Elizabeth G. Chapin, of Brooklyn, N. Y.; Mrs. Idah Meacham Strowbridge (the Artemisia Bindery), formerly of Nevada, now of California; Miss Mary P. Dow, of Philadelphia; and Miss Minnie Sophia Pratt, Miss Emily Preston, Miss Helen G. Haskell, and Miss Florence Foote, all of New York city.

The new school of American bookbinding attracted attention first to itself and then to the old masters of bookbinding. Collectors who could gratify their fancies recalled the fact that Roger Payne once executed bindings, and that Jean

generally carries the gold-lettered title of the volume. The sides are the book's exterior minus the back, while the double is the inside of the book's cover. A book that is to have a special binding ought to be worthy of it. It would be foolish to bind a book made up of wood-pulp paper, that has been poorly printed, in full morocco, inlaid, polished, and elaborately tooled. If the book is a rare first edition, so much the better. The solace derived from the book will be all the greater if it be also one of a limited edition, signed and numbered. Upon such a book a choice binding may well be lavished, and if to the finished book be also added a slip case, the joy of the bibliophile can go no further. The book-lover who has had no personal contact with bookbinders may well take an early opportunity of visiting and studying a well-equipped bindery and



A ROYCROFT DE LUXE BINDING.

Steel-blue crushed levant, inlaid in heliotrope, pale yellow, purple, and olive-green.

Grolier lived and died, having in the meantime made himself notable through the binding of his books, in which he took great delight. The way was prepared for the binders who came into existence after them, and a market was assured for bindings that possessed artistic merit.

The special binding of a book is an interesting process. The material used, now very generally morocco, is carefully selected. In some cases the morocco is specially imported to the order of the binder who is to use it. The sewing is done with much care and generally with English sewing-cord. Some of the other features of forwarding, among which are beating, gilding, marbling, or sprinkling, putting the book in leather, etc., are entrusted to apprentices or other workmen, but they remain under constant supervision, while the lettering, tooling, inlaying or mosaic work, and other finishing processes, are reserved for the hand of the master.

To bookbinders a book has a head and a tail, a front and a back, two sides, and the double, which is of course in duplicate. The head of a book is also known as the top, which is generally gilded. The tail is the bottom of the book when it stands erect with the title conventionally horizontal. The front is opposite to the back, which

observing something of the technique of the work. It is only by such means that anything like an adequate understanding of the true significance of the art of bookbinding can be obtained.

The exhibitions of fine bindings that are held annually in New York city, Boston, Chicago, Baltimore, and to some extent elsewhere, the first of which was held less than ten years ago, have done much to spread the knowledge of special bindings. An appreciative coterie has come into existence, to whose ranks additions are being made constantly. It is also because of these exhibitions that we have become more critical and no longer accept even the old masters as flawless unless they are so. So quietly has the love of fine bindings fostered by the American craftsman grown among us, and withal so unobtrusively, that it is not generally known that there are many persons in our country who spend large sums on bindings; because the books while in process of binding are not on view to those not concerned, and when they are finished they go at once into the library of the owner, where their examination is reserved for him and his immediate friends.

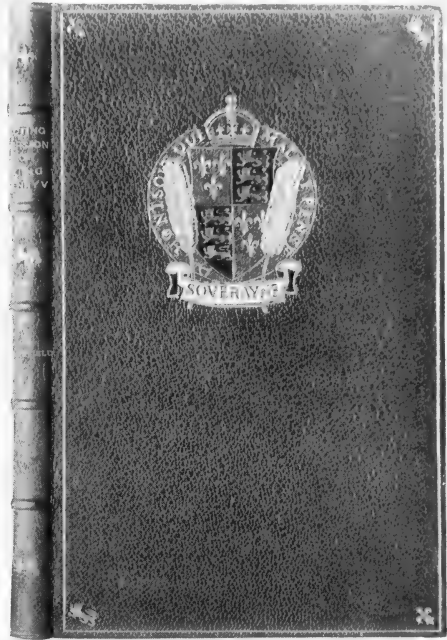
A book in binding passes through forty distinct processes. The number of tools required, exclusive of those used for exterior ornamentation, is

between forty and fifty. Those that are used for what is called "tooling" are innumerable. A book is said to be "finished" when the various final tool impressions upon the inside or doublé, and the outside of the book's cover are complete. If the tool-markings are made without using gold-leaf, or some substitute, the book is said to be "blind-tooled." All books that are gold-tooled must first be blind-tooled, after which the impress of the heated tool must at least be duplicated exactly in the depression made by the blind-tooling, and if the smallest deviation takes place because of an unsteady hand or otherwise, the variation remains upon the book and can not be successfully taken out. Sometimes more than 2,000 separate impressions are made upon a comparatively simple book-cover in the decorative process. If the decoration be very elaborate, the number of tool impressions of course multiplies.

The more one studies the art of bookbinding the more complex does it appear, and when some little theoretical familiarity with it is reached, a finely bound book is no longer taken up with indifference and unconcern. The very "feel" of the morocco—now the favorite binding for fine books—which is the native tanned skin of a mountain goat, is full of pleasure to the enthusiast. The skin derives the name of morocco from the African country in which the goats are found in considerable numbers. Levant morocco comes from the Mediterranean ports of the Levant. Red morocco is generally considered by binders to be less liable to fade than any other color. There are many other binding materials, among which may be named alligator skin, roan or sheepskin, calfskin, pigskin, Russia, sealskin, and a very recent product called "niger calf." A freak binding that has been sometimes used is human skin. The book-lover who has reached the proper stage of development will derive a certain pleasure from the mere handling of his full-morocco books that is quite incomprehensible to others. His knowledge of the processes through which they have passed will be another source of pleasure to him, and a book that has been specially bound will have lurking charms for him that are securely hidden from all but brother bibliophiles.

Some very pleasing work in bookbinding has been done by such concerns as the Merrymount Press, Boston; Thomas B. Mosher, Portland, Me.; the Craftsmen's Guild, Boston; the Brothers of the Book, Gouverneur, N. Y.; the Laurentian Press, New York; and Thomas Maitland Cleland, in what are known as limited-edition issues. Many bookbinders, both here and in England, now take a certain number of pupils. The course varies from about seven months in some American binderies to twelve months in the general English shop. In France the course is much longer. Many women are turning their attention to bookbinding as an occupation, and some very fine results have been obtained by them. The charges for tuition in bookbinding vary greatly, but range from \$350 to \$2,000 a year. Bookbinding is now taught in many of the technical schools in the larger American cities. Some amateur binders appear to think that the preliminary processes of bookbinding are not so important as are the finishing ones. As a result, they produce books that are fair to exterior observation, but lack the lasting qualities. Their sewing is often poorly done in consequence, and without good sewing it is impossible to have really good binding. In the perfect book, good forwarding and good finishing go hand in hand. The result must be that the book, while giving eye pleasure, has also the quality of stability. In the hands of a

good binder it is so made that the book may be easily and fully opened and used without damage to the binding. The inside and outside are in harmony, and the thing of beauty is a joy forever.



VIENNESE INLAY BINDING BY SCHLEUNING & ADAMS, DESIGNED BY RALPH RANDOLPH ADAMS.
Yellow morocco ground. Heraldic colorings proper.

Watered silks and satins, as well as vellum, or various fancy end papers, are used for fly-leaves in special bindings. Painting, as a decoration for bookbinding, is seldom used at present. The same is true in regard to the embroidering of bookbindings, once so high in favor among old English binders. Some of the earlier binders used certain tools so persistently that they became characteristic, and now carry the originating binder's name. Thus we have a Le Gascon border and Venetian and Grolier ornaments. Roger Payne was accustomed to cut his own tools. The similarity of design forms used by Derome and Padeloup has been explained on the theory that the former purchased the tools of the latter at the sale of his effects after his death. A Janseniste binding shows a perfectly plain exterior, but lavishes a wealth of decoration in tooling and inlay upon the book's doublé, and to show the glories of the binder's achievement the book must first be opened. The number of eminent binders in New York city is greater than in any other city, but scattered all over the land are those who are working to good purpose in this field. The Club Bindery (New York) is doing some most excellent binding, but its bindings are unfortunately seldom seen outside of the shop of execution or at the Grolier Club, whence it sprang. Most of the workmen at the Club Bindery are importations, and the work done there is largely to the order of members of the Grolier Club, although some outside commissions are undertaken.

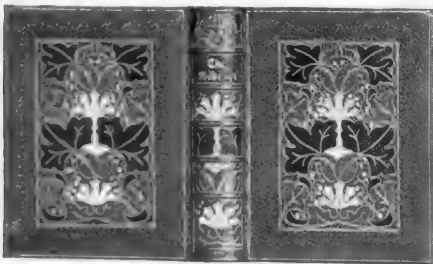
The bookbinding that has thus far come from the Roycroft Shop has not filled the full measure of ideality, but some of it shows signs of great promise. It has originated some very pleasing design forms, but has not yet accomplished its full

capabilities either in the matter of binding or in illuminating, in which it has followed classic models without having reached the transcendancy of the originals. Mrs. F. W. Goothold, of New York, and Messrs. Gilbo & Co., of Brooklyn, have obtained charming results in illuminations.

Certain of the pyrographic work done upon his bookbindings by F. J. Pfister is quite unique. An example shown at the Bonaventure exhibition in 1900 attracted much attention, as was also the case with one of his pyrographic bindings in the Scribner exhibition of 1901. Many of his bindings in the more generally practised style also are beautifully finished.

One of the most promising bookbinders who have recently appeared is Mr. Ralph Randolph Adams, of the New York firm of Schleuning & Adams, whose attention was some time since drawn to the bindings executed in Vienna hundreds of years ago, the production of which was abandoned because the binders of the day were unable to overcome certain difficulties. In this work the early binders actually inlaid leathers of different colors into the ground color of the bound book. They were, however, unable to prevent the leather from parting and showing a crack where it had dried out and shrunk, which was the cause of their giving up the method. It has been commonly supposed that this parting arose during the lapse of centuries, but this is true only in a very small measure, for it is now known that the parting took place as soon as the moistening caused by the paste had dried out, and this being observed by the binders themselves, occasioned the giving up of the work. For more than six years Mr. Adams has studied the Viennese bindings and has experimented with persistence, looking toward their production until he has at last overcome the difficulties that were insurmountable to the old binders of Vienna.

During the past twelve months he has been doing a kind of mosaic inlaying that has not previously been done to any extent in this country. In place of beating or paring down the leathers used so that they shall have only a half thickness, and then pasting on the inlay (or rather overlay), Mr. Adams cuts the morocco ground entirely away, exposing the boards, and then inserts the carefully fitted inlay. By this method



BINDING BY TOOF & CO., DESIGNED BY OTTO ZAHN.
Salmon crushed levant; inlaid, aranthus leaves; brown, French gray, and white mosaics. Valued at \$500.

he preserves the beauty of the grain of the leather, which is taken out by the other method, and secures a satisfactory result. His bindings are among the most hopeful of any that have come into notice during the past year. Some new methods in finishing produce gold effects, by a process newly discovered by Mr. Adams, that exceed even the brilliancy of the French finishing, which has hitherto been the distinguishing feature of French binding.

Modern American bindings, as well as those executed abroad, differ essentially from those of antiquity. The finished tooling that has grown by adding tool-mark to tool-mark has attained among modern binders a far greater perfection than was the case even when such masters as Roger Payne, Padeloup, Derome, and Le Gascon



PYROGRAPHIC BINDING BY F. J. PFISTER.

The flying bird is inlaid in blue morocco, with burnt outlines, feet, etc. The dragon-fly is also in natural colors by means of mosaic work in combination with poker work.

are considered. Our best modern bindings, compared with those of the old masters, clearly show wherein our foremost binders are superior in detail to their ancient brother craftsmen, so that if we have lost somewhat in the matter of boldness we have gained infinitely in delicacy of touch and perfection of finish. The school of American book-binding is no longer elementary, nor is it needful now for American book-owners to send their volumes to Europe for fine binding. We already have several pupils of Cobden-Sanderson, the famous English bookbinder, in the United States, and the work done by those who owe their skill to other masters is daily growing greater.

BRAZIL, a federal republic in South America. The National Congress consists of a Senate of 63 members, 3 from each state and the federal district, elected for nine years by direct suffrage, one-third retiring every three years, and a House of Deputies, containing 212 members, 1 to 70,000 of population, elected for three years by adult male Brazilians; soldiers in active service, members of monastic orders, paupers, and persons convicted of crime being excluded. The President of the republic is elected by direct suffrage for four years. Dr. Manoel Ferraz de Campos Salles was elected President for the term beginning Nov. 15, 1898, and Dr. Francisco Rosa e Silva was elected Vice-President. The ministers of state appointed by President de Campos Salles are as follows: Minister of Foreign Affairs, Dr. Olyntho de Magalhães; Minister of Finance, Dr. Joaquin Martinho; Minister of War, Marshal Joao N. de Medeiros Mallet; Minister of Industry, Alfredo Maia; Minister of the Interior and Justice, Epitacio Pessoa; Minister of Marine, Rear-Admiral J. Pinto do Luz.

Area and Population.—The area of Brazil according to recent calculations is 3,218,130 square miles. The population in 1890 was 14,333,915, not including about 600,000 uncivilized Indians. The number of immigrants in 1898 was 53,822 through Rio, Santos, and Victoria. The decision by the Swiss arbitrators of the boundary question between Brazil and France, announced on Dec. 1, 1900, sustained the contention of Brazil as to the river named in the treaty of Utrecht, and proved that France in 1713 voluntarily conceded to Portugal the territory in dispute. The Oyapuk river is the boundary of French Guiana and Brazil.

Finances.—The revenue for 1899 was estimated at 346,164,000 milreis, and expenditure at 346,000,423 milreis. The budget for 1900 made the revenue 53,975,543 milreis in gold and 312,958,000 milreis in paper, and the appropriations voted were 36,973,646 milreis in gold and 263,162,276 milreis in paper, including 9,026,670 milreis in gold for the currency guarantee fund and 23,920,000 milreis in paper for redemption of currency. For 1901 the revenue was estimated at 58,869,000 milreis in gold and 286,082,000 milreis in paper, the expenditure at 37,510,000 milreis in gold and 244,514,000 milreis in paper. Of the revenue 36,400,000 milreis in gold and 123,454,000 milreis in paper were import duties, 33,200,000 milreis in paper railroad receipts, 15,500,000 milreis in paper postal and telegraph receipts, 600,000 milreis in gold and 30,808,000 milreis in paper revenue from stamps, etc., 105,000 milreis in gold and 319,000 milreis in paper receipts from various taxes, 39,886,000 milreis in paper excise receipts, 8,565,000 milreis in paper extraordinary revenue, 12,678,000 milreis in gold emission, and 9,026,000 milreis in gold and 34,350,000 milreis in paper special revenue. Of the expenditure 16,094,000 milreis in paper were for the Department of the Interior and Justice, 969,000 milreis in gold and 527,000 milreis in paper for the Department of Foreign Affairs, 23,200,000 milreis in paper for the Department of Marine, 45,581,000 milreis in paper for the Department of War, 12,859,000 milreis in gold and 61,818,000 milreis in paper for the Department of Industry, Communications, and Public Works, and 23,682,000 milreis in gold and 97,294,000 milreis in paper for the Department of Finance. To secure the revenue required by the Federal Government taxation has become very heavy, and the revenues of the states and municipalities are obtained by a system of taxation that is not simply burdensome, but irksome and discouraging to enterprise. The financial year 1900 closed with a surplus of 35,000,000 milreis. The payment of interest on the foreign debt, which had been interrupted, was resumed by arrangement of the British creditors on July 1, 1901, when the Government had more than enough on deposit in London to meet the interest, which amounts to £2,400,000 a year. The Government has agreed to reserve 25 per cent. of the customs receipts for the purpose, and expects to have a surplus of £4,000,000 a year, besides £1,000,000 allotted to the fund for guaranteeing the currency. The revenue for 1901 was 27,000,000 milreis in gold and 281,000,000 milreis in paper.

The foreign debt on March 31, 1900, amounted to £38,639,281 sterling, consisting of £3,292,000 borrowed in 1883 at 4½ per cent., £5,298,600 raised at 4½ per cent. in 1888, the 4-per-cent. loan of £18,388,200 obtained in 1889, £7,331,000 borrowed at 5 per cent. in 1895, and £4,328,881 obtained in 1898. The internal debt amounted to 511,197,100 milreis, composed of a gold loan of 20,549,000 milreis paying 4½ per cent. interest, one of 7,127,500 milreis paying 6 per cent., 119,600 milreis payable in paper and bearing 4 per cent. interest, and the 5-per-cent. currency loan amounting to 483,401,000 milreis. The floating debt was 284,759 milreis, and there were treasury notes for 10,175,000 milreis. The paper money in circulation in July, 1900, amounted to 703,666,174 milreis. The debts of the states on Jan. 1, 1900, amounted to £10,135,729 sterling.

The Army and Navy.—The strength of the army on the peace footing in 1899 was 484 staff officers, 1,573 officers, and 9,035 men in the infantry, 606 officers and 3,179 men in the cavalry and engineers, and 1,400 cadets. The active army con-

sists of 40 battalions of infantry of 4 companies each, 14 regiments of cavalry of 4 squadrons each, 6 regiments of field artillery of 4 batteries each, 6 battalions of fortress artillery, 2 battalions of pioneers, and 6 transport squadrons. The gendarmerie numbers about 20,000 men. The National Guard is being reorganized.

The navy in 1900 consisted of 2 third-class battle-ships built before 1885; the armored coast-defense vessels Deodoro and Floriano, built in 1898 and 1899; 6 armored gunboats of various dates; 2 old monitors; 4 small protected cruisers, and 3 without armor; 18 gunboats; 4 torpedo-cruisers; and 9 first-class and 17 second-class torpedo-boats, besides 2 submarine boats built in 1895 and 1896. The fleet had 4,000 seamen, 1,000 stokers, 1,500 boys, and 450 marine infantry.

Commerce and Production.—The total value of imports in 1897 was 671,603,280 milreis, and of exports 831,806,918 milreis. The imports are cotton and woolen goods, iron, hardware, machinery, coal, flour, cattle, jerked beef, rice, codfish, pork, lard, butter, corn, olive-oil, macaroni, tea, candles, salt, kerosene, timber, wine and spirits, etc. Of the imports at Rio de Janeiro in 1899 Great Britain furnished 41 per cent., Germany 11 per cent., France 10 per cent., the United States 8 per cent.; of the coffee exports 68 per cent. went to the United States, and the rest to Europe. The exports of coffee in 1899 from Rio de Janeiro, Santos, Victoria, and Bahia were 9,284,412 bags of 152 pounds, compared with 10,248,186 bags in 1898 and 10,353,197 bags in 1897. The fall in the price of coffee has checked planting. The production of rubber in the Amazon valley is increasing, and rubber-trees have been planted in Bahia and other districts. In Pernambuco 167,198 bales of cotton were grown in 1898: There are sugar plantations and factories in the same state. In Rio Grande do Sul 232,000 cattle were slaughtered in 1900, against 270,000 in 1899 and 340,000 in 1898. In that state are fruit canneries, breweries, and tanneries. Rum and alcohol are distilled in increasing quantities. In Minas-Geraes gold-mines worked by foreign companies produce 148,000 ounces a year, and in that state and Bahia 40,000 carats of diamonds have been dug from river beds annually, and the quantity has lately increased. A company has erected machinery to work diamond-mines in Minas-Geraes. In the same state 65,000 tons of manganese ore were raised. Great development has taken place in the mining industry in a period of depression in other branches of production. About 200,000 persons are employed in cotton-mills, in which 100,000,000 milreis have been invested. There are also mills for weaving woolen and silk, and for grinding flour from Argentine and Uruguayan wheat. The cultivators of coffee have not attempted to reduce wages in order to escape from the financial embarrassment caused by the fall in the price of their product and in the exchange value of the currency, because attempts to lower the wages of industrial operatives have resulted in strikes and disorganization, and they fear that agricultural laborers would refuse to work if their wages were cut down. Large stocks of coffee were held over from 1900 and the crop of 1901 was abundant. The world's production of coffee, of which Brazil furnishes 62½ per cent., is being increased rapidly by new plantings in all subtropical regions; although the present production is at least 12½ per cent. in excess of consumption. The rubber, sugar, cotton, and tobacco interests in Brazil suffer from the falling rate of exchange, which affects all branches of the export trade, owing to the indebtedness of local producers to foreign

bankers and merchants. To alleviate the crisis in the coffee trade the Government in 1901 reduced freight rates on state railroads, and by agreement with the companies on private railroads also.

Navigation.—There were 1,077 vessels in the foreign trade, of 1,916,934 tons, entered, and 1,019, of 1,553,707 tons, cleared at the port of Rio de Janeiro in 1899; and in the coasting trade 1,229 vessels, of 652,329 tons, were entered and 1,263, of 682,080 tons, were cleared. At Bahia 854 vessels in the foreign trade, of 1,396,989 tons, were entered and cleared and 743, of 14,842 tons, in the coasting trade.

Railroads and Telegraphs.—The length of railroads completed on Jan. 1, 1900, was 8,718 miles, and 4,989 miles were being built, 4,670 miles more surveyed, and 8,440 miles besides were authorized. The Government has guaranteed 6 or 7 per cent. on the capital of most of the railroads. Of those in process of construction 3,699 had Government subventions. The Government owned 1,982 miles, which were leased to companies. The cost of these lines was 257,674,937 milreis.

The telegraphs have a length of 10,143 miles of line, with 21,936 miles of wire.

Political Affairs.—On information extracted from Baron de Bural, who afterward committed suicide, and confirmed by further inquiries, Rear-Admiral Custodio de Mello, who headed the naval revolt of 1893 and was amnestied after a period of exile, was arrested on the charge of conspiring to overturn the Government of President Campos Salles. The old revolutionist was said to have been busy spreading disaffection in the navy ever since his return to Brazil. The plan of the conspirators was believed to be to procure the murder of the President, which should be the signal for an insurrection. During the general confusion the monarchists in the army and navy were to take military possession of Rio de Janeiro and seize the Government buildings. The executive power would be entrusted to a triumvirate, consisting of Admiral de Mello, Marshal Cantuaria, and the Advocate Lafayette-Pereira. The ultimate object was the restoration of the empire. Rear-Admiral de Mello was arrested on March 23 and confined on the island of Cobras, as it was feared that his presence in the capital might give rise to a disturbance. Extraordinary precautions had been taken secretly to prevent an insurrection. The attention of the Government was directed particularly to the navy, and a close watch was kept on the war-vessels, as it was feared that the officers could not be entirely trusted. After being kept in custody for several months Admiral de Mello lodged a complaint against the Government in the Chamber of Deputies, alleging that his arrest was illegal, and that he was refused the means of defending himself. He based his claim on the Constitution, which allows every one to denounce the President of the republic for abuse of authority. His complaint was referred to a special commission, on the report of which the Chamber unanimously dismissed his charge against the President. When Congress was opened on May 3 the President urged the continuance of a policy of appeasement, from which the best results had been obtained during his administration, and mentioned a variety of circumstances tending to show the complete public tranquillity of the country. The Government proposed to develop military instruction and, as far as could be done without creating fresh financial difficulties, to accumulate improved war material. The Government is working for the purchase of the guaranteed railroads, which have annually cost the treasury 30,

000,000 milreis for many years without any compensation. A harbor at Rio de Janeiro was recommended to be constructed by private enterprise with Government assistance. On Aug. 5 the Minister of Justice resigned and was succeeded by Sabino Barroso.

BRITISH COLUMBIA, PROVINCE OF. A portion of the Dominion of Canada, 409,910 square miles in area, with a population of 150,000.

Politics and Legislation.—Politics in British Columbia at the beginning of 1901 were more harmonious than they had been for some time. The Government of Mr. James Dunsmuir, a millionaire mine-owner of high character but slight political experience, had developed considerable strength, while the popular personality of the new Lieutenant-Governor, Sir Henri Joly de Lotbinière, had also helped to put an end to faction warfare. The ministry was composed of the Hon. J. D. Prentice as Provincial Secretary and Minister of Education, the Hon. D. M. Eberts, Q. C., as Attorney-General, the Hon. J. H. Turner as Minister of Finance and Agriculture, the Hon. W. C. Wells as Chief Commissioner of Lands and Works, and the Hon. Richard McBride as Minister of Mines. The Premier held no portfolio. Late in 1900 two constituencies were opened through the resignation of sitting members who were candidates for the Dominion Parliament—Ralph Smith, in Nanaimo, and James F. Garden, in Vancouver. Mr. Smith was elected, and was succeeded by Mr. J. H. Hawthornthwaite in the Provincial Legislature (the latter being elected by acclamation). Mr. Garden was defeated for the Dominion House, but was renominated for the Legislature, and after a stiff fight carried Vancouver on Feb. 19 for the Government against Robert Macpherson, who had combined with the Liberal element, led by the Hon. Joseph Martin, and the Labor party in support of his candidature. The Legislature met on Feb. 20, and was opened by the Lieutenant-Governor in some state and with a complimentary escort of 40 khaki-clad soldiers from South Africa. The speech from the Throne was read by Sir Henri Joly de Lotbinière. Its significant passages were these:

“As a mark of appreciation of the valiant services rendered by the volunteers from British Columbia who went to South Africa to assist the empire in the war with the Transvaal and Orange Free State, my Government will introduce a measure authorizing the conveyance to them of free grants of land. A measure will be submitted amending the school act. There will be submitted for your consideration a bill having for its object the encouragement of the wood-pulp industry of British Columbia. I am pleased to know that the dairying industry continues to develop in so satisfactory a manner, and that new creameries are being established. My Minister of Agriculture has obtained a promise of continued cooperation on the part of the Dominion in rendering expert assistance in their construction and subsequent operation, and in giving instruction in the manufacture of butter and cheese. Recognizing the importance of encouraging provincial trade in agriculture and other natural products in the mining districts, efforts have been made to secure such a reduction of freight rates as will naturally tend in that direction, and I am pleased to announce that this will be brought about.

“For the purpose of promoting settlement, my Government is considering the advisability of introducing legislation having in view the extension of the system of small holdings. A measure will be introduced with the view of aiding the construction of a railway from the Boundary

Creek district to the coast; of a railway to the northern end of Vancouver island; and of a railway in Canadian territory from the coast to the northern boundary of the province. The industries of the province, I am happy to state, are in a prosperous condition. During the recess commissions were issued for inquiries into the conduct and general administration of the Asylum for the Insane; the rights of settlers on the Esquimalt and Nanaimo Railway land belt; and the adjustment of mining claims in the newly organized Porcupine district, and full reports of the commissioners in each case will be laid before you.

"Provision was made by you at the last session of the Legislature for the appointment of a commission to inquire into the working of the mining acts, and much preliminary information has been obtained by the Department of Mines in anticipation of the commission being used; but it having been announced that the Dominion Government also intended issuing a commission with respect to our mineral resources, a postponement was deemed desirable in order to ascertain to what extent these commissions might be able to cooperate to the advantage of the province. Amendments will be introduced to perfect, as far as possible, existing mining laws. The act regulating immigration, passed at last session, has come into effect, and the necessary machinery for its enforcement has been put into operation. A delegation, consisting of my First Minister, and the Honorable the Attorney-General, recently proceeded to Ottawa to lay before the Dominion Government the claims of British Columbia to increased recognition in the matter of railway development, and in other respects, and to arrive at a settlement of certain matters requiring adjustment between the two governments. The report of the delegation will be laid before you."

The Hon. J. P. Booth acted as Speaker, and when the House was prorogued on May 11 the following acts—among others of minor importance—were assented to in the King's name:

To authorize grants of land to British Columbia volunteers serving in the South African war.

To amend the extra-provincial investment and loan societies act, 1900.

To amend the land registry act amendment act.

To amend the placer mining act and amending acts.

To extend the provisions of the Canadian contingent exemption act, 1900.

Respecting the maintenance of wives deserted by their husbands.

To amend the succession duty act.

To provide for the collection of a tax on persons.

To amend the inspection of metalliferous mines act and amending act.

To amend the absconding debtors act.

To amend the summary convictions act.

To amend the trustees and executors act.

For the protection and reformation of neglected and dependent children.

To amend the coal-mines regulation act.

To incorporate the Lake Bennett Railway Company.

To incorporate the Queen Charlotte Islands Railway Company.

To incorporate the Kamloops and Atlin Railway Company.

To incorporate the Coast-Kootenay Railway Company, Limited.

To incorporate the Comox and Cape Scott Railway Company.

To incorporate the Victoria Terminal Railway and Ferry Company.

To incorporate the Imperial Pacific Railway Company.

To incorporate the District Power and Telephone Company.

To incorporate the Midway and Vernon Railway Company.

To incorporate the Kootenay Central Railway Company.

To incorporate the Vancouver and Grand Forks Railway Company.

To incorporate the Yale Northern Railway Company.

To amend the British Columbia immigration act, 1900.

Respecting assignments for the benefit of creditors.

To authorize a loan of \$5,000,000 for aiding the construction of railways and other important public works.

To amend the drainage, diking, and irrigation act.

Respecting the manufacture of wood-pulp and paper.

On Sept. 3 Dunsmuir—a Conservative in Dominion politics, elected to the Legislature and made Premier through opposition to the policy of Joseph Martin, the Radical leader—threw a bomb into the political arena by accepting the resignation of Mr. J. H. Turner, Minister of Finance, and appointing the Hon. John C. Brown Provincial Secretary and Minister of Education. Mr. James D. Prentice was transferred from this latter department to that vacated by Mr. Turner. Mr. Brown had been a devoted follower of Martin, an opponent of Dunsmuir until very lately, and a Radical of the most strenuous type. Mr. McBride, Minister of Mines, at once resigned his post, and the papers of the province with very few exceptions denounced the action of the Premier and the assumed change of policy toward what was popularly termed "Martinism." The defense made by the Colonist, the chief Government organ, was that the representation of both parties in the provincial Cabinet was desirable; that Mr. Brown himself was a good administrator and would make an excellent minister, and that he now had complete confidence in the policy of the Premier. When the new minister went back for election to his constituency of New Westminster he was met with violent opposition, and on Sept. 18, after a prolonged contest, he was defeated by Thomas Gifford by 52 votes. On Oct. 4 his retirement was announced, and the office was thereafter left vacant for some time, although Messrs. H. D. Helmcken, K. C., and R. F. Green were understood to have been offered Cabinet places. The Opposition papers declared that the Government was tottering, and loudly urged the Premier to resign, but the latter, on Oct. 10, announced that he still had a large majority in the House, and intended to remain in office. He met with a great personal misfortune about this time, when a fire in his coal-mines involved a loss of about \$1,000,000.

Relations with the Dominion.—On March 15 a report was submitted to the House by the Premier and the Hon. D. M. Eberts concerning their mission to Ottawa in January and February. In the documents thus published and in the discussions referred to, Mr. Dunsmuir had pressed strongly upon the Dominion Government the claims of British Columbia in various important matters—the necessity of checking Chinese and Japanese immigration; the right of the province to a greater share of the revenues arising from

the Chinese immigration act; the desirability of settling the conflicting fisheries jurisdiction; the readjustment of the lumber tariff; the granting of cooperative subsidies to railways within the province; the adjustment of financial relations. The latter was a particularly sore point. From 1872, when British Columbia joined the confederation, to July, 1901, the revenue contributed by the province to the Dominion had been more than \$42,000,000. If, Mr. Dunsmuir said, the contribution had been on the same basis per head as in the other provinces it would have been only \$15,957,000. The total amount expended by the Dominion in the province during this period was \$25,915,000. He therefore argued strongly that on this account, and because of the immense distances, the natural obstacles to travel and transport, the great mineral resources available for exploitation and the sparse population, it was the duty of the Federal authorities to help the provincial Government in building certain necessary railways. In the same way the fishery question demanded settlement. By the decision of the Imperial Privy Council in 1898, the fish of the lakes and seacoast had been declared provincial property, while the right of regulation and control had been largely vested in the Federal authorities. There was, however, much room for dispute and further litigation in the matter of licenses, and Mr. Dunsmuir proposed to Sir Wilfrid Laurier that they should compromise the question by a ten years' Dominion grant of \$100,000 annually for encouraging ship-building in the province. He pointed out that in this as well as other matters British Columbia believed itself unfairly treated. For 1899 the fisheries revenue of all Canada was \$76,447, of which the province contributed \$45,801, while receiving only \$12,195 out of a total Dominion expenditure upon fisheries of \$408,754. Other matters were discussed in a voluminous correspondence between Sir Wilfrid Laurier and Mr. Dunsmuir, but without practical result.

This whole question was brought before the House of Commons at Ottawa by the Hon. E. G. Prior, of Victoria, British Columbia, on April 30. He began with the assumption that his province was suffering considerable disabilities because of the neglect of the Dominion Government to place sufficient sums in the national estimates for the protection of its interests. He referred to the distance of the province from Ottawa, and to the difficulty of sending special delegations to the capital. He spoke of the mission of the Hon. James Dunsmuir and the Hon. D. M. Eberts to Ottawa, and to the able document which these representatives of the British Columbia Government had prepared upon the matters at issue. After referring at some length to the Chinese and Japanese question and to that of railway development, he quoted Mr. Dunsmuir's financial statements in the document mentioned above, and declared that while every one of the other provinces of the Dominion had received more from the Federal Treasury than they had paid into it, the Government of British Columbia had, since confederation, paid to the authorities at Ottawa \$13,507,258 more than they had received. Not one cent of the increased national debt of \$223,800,000 had been expended in the Pacific province, as he considered the Canadian Pacific a national undertaking from which all the provinces benefited. He compared the revenues paid by British Columbia and Nova Scotia respectively into the Dominion exchequer in the year ending June 30, 1900—the former \$3,220,688, the latter \$2,503,596. The Pacific province was therefore 28 per cent. in amount ahead of the Atlantic province, while the

percentage according to population was still greater—\$17.70 to \$5.45.

Similarly, in customs and excise, and in exports and imports, his province was ahead of those on the Atlantic coast. He quoted, with pride, the seagoing tonnage of Montreal and Victoria. The former great commercial center had a total of 2,068,313 tons; the latter, a small town in population, had 1,796,331 tons. "And yet," he exclaimed, "the Minister of Public Works can not or will not see fit to give the paltry sum of \$15,000 a year for the purpose of dredging and putting the harbor of Victoria into better shape." The port of Quebec, which had only 1,088,630 tons of shipping, owed the Dominion Government \$4,000,000 for advances. The unfairness in connection with the fisheries of the province was equally great. Out of a total Dominion revenue of \$79,788 from fisheries, British Columbia contributed \$53,195, while out of a total Dominion expenditure upon fisheries of \$251,469, British Columbia received only \$13,662. For fisheries protection his province was not given one cent, while Nova Scotia received \$97,370. He urged the Government to do something for the salmon-canning industry of the province. He also spoke at length upon the ship-building question and the matter of the mint and assay offices. A reference was made to the possibilities of trade with Siberia, and Mr. Prior concluded by saying that if the Government would do justice to his province they would soon develop a vast market for the products of eastern Canada.

Finances.—On April 29 the Hon. J. H. Turner delivered his thirteenth financial statement to the Assembly, and announced his coming retirement from the ministry. The principal receipts for the fiscal year 1900-'01, and the estimates for the coming year 1901-'02, were as follow:

SOURCES.	1900-'01.	1901-'02.
Dominion subsidies and payments.	\$242,689	\$284,151
Land sales and revenue.	115,000	157,000
Timber royalty and licenses.	80,000	85,000
Timber leases.	80,000	80,000
Free miners' certificates.	125,000	130,000
Mining receipts.	200,000	200,000
Licenses.	70,000	70,000
Real property tax.	120,000	125,000
Personal property tax.	70,000	75,000
Wild-land tax.	55,000	55,000
Income tax.	30,000	35,000
Revenue tax.	150,000	200,000
Mineral tax.	65,000	80,000
Registry fees.	120,000	110,000
Chinese restriction act.	35,000	135,000
Succession duty.	25,000	100,000
Coal royalties.	90,000	95,000
Miscellaneous.	111,550	124,600
	\$1,754,239	\$2,140,751

The expenditures for 1900-'01 and the estimated expenditure for 1901-'02 were, respectively, \$372,790 and \$411,440 upon the provincial debt; \$221,895 and \$253,980 upon civil government or salaries; \$219,470 and \$231,132 upon administration of justice; \$967,350 and \$41,325 upon legislation; \$118,700 and \$124,380 upon the maintenance of public institutions; \$70,650 and \$87,300 upon hospitals and charities; \$326,470 and \$369,037 upon education; \$665,323 and \$804,641 upon public works; \$145,820 and \$152,100 upon miscellaneous items. The total for the current year was \$2,218,468, leaving a deficit of \$461,229. The total estimated expenditure for 1901-'02 was \$2,475,335, showing a deficit of \$334,584. The supplementary estimates which have to be added to this amount were \$167,484.

The Fisheries.—The principal fish of this region are the halibut of the lakes and rivers, her-

ring; and salmon. The total value of the catch between 1876 and 1899 was valued at \$60,998,000. In the latter year the value of the salmon fisheries was \$4,007,396; of herring, \$37,450; of halibut, \$103,750; and of fur-seals in the north, \$441,825. The value of the fish for home consumption was placed at \$350,000, and the general total at \$5,214,073. The number of fishermen was 23,806, the vessels and boats 4,982, the salmon canneries 69, with a value of \$1,380,000, and the total value of all fishing-plants was \$2,604,773. The value of the product was \$21,891,706. In 1901 the total pack of salmon from Fraser river was 920,313 cases, against 316,522 cases in 1900. The price, however, to the fishermen was only 10 or 12½ cents, against 19 and 20 cents in the preceding year.

On Feb. 22 a discussion took place in the House of Commons at Ottawa as to the position of these fisheries and the question of control. The Minister of Marine and Fisheries said that certain inspectors had been appointed or retained to look after the enforcement of Dominion regulations as to fishing and to fix the times and seasons in which fish may be taken. "The local Government have the sole and exclusive right, under the Privy Council decision, to grant licenses for particular localities; they get the fees and appoint officers for that purpose. It is a divided jurisdiction, and we appoint three officers in Ontario to keep track of the manner in which our regulations are observed, and report to us whether these regulations are proper or not, and whether they should be amended." He proceeded to point out that "the exclusive power to make regulations in connection with the fisheries is vested in the Dominion Government, but the provinces of Ontario and Quebec, having been declared by the Privy Council to be the owners of the beds of the rivers and lakes, they were held, *a fortiori*, to be the owners of the fish in these rivers and lakes, and it was held that the provinces had the exclusive right to grant fishery leases of areas in these lakes. Therefore the revenues which we formerly derived from the issue of licenses are now handed over to the provinces of Ontario and Quebec." The minister admitted that there had been friction between the provinces and the Dominion upon this subject. "There has been a disposition on the part of the provincial governments to arrogate power with regard to regulations which I do not think they possess." Especially was this the case with regard to what were termed "supplementary regulations." Upon this point there had been "more or less friction." But there was no complaint as to the manner of administering the recognized Dominion regulations. The Hon. E. G. Prior, of Victoria, had asked why the Government had not treated British Columbia in this respect as it had Ontario and Quebec. The minister replied that there was a wide distinction between lake and deep-sea fisheries. "In the maritime provinces the question whether the bed of the sea from low-water mark to the three-mile limit belongs to the province as a proprietary right, or whether the Dominion has proprietary jurisdiction over it, is a question not absolutely determined." He believed the Dominion to have the right over seacoast fisheries. Mr. Prior then drew attention to another branch of the same subject. The Dominion revenue from Ontario fisheries last year (1900) was \$794; the Dominion expenditure upon Ontario fisheries was \$3,704. In Quebec the revenue collected was \$2,563, the expenditure was \$5,549. In Nova Scotia the revenue was \$5,494, the expenditure \$27,461. In New Brunswick the revenue was \$12,015, the expendi-

ture \$21,459. But in British Columbia, where the Dominion revenue was \$53,195, the expenditure upon the fisheries was only \$13,662. The reply was that Mr. Prior would "find the expenditure for the current year much larger."

On April 30 the Hon. Mr. Prior again brought up the question of the salmon fisheries of British Columbia, and quoted from two important documents or memorials prepared by the Cannery Association of the province. This organization was altogether in favor of provincial control of the fisheries. He himself deprecated the present divided jurisdiction under which the Dominion Government controlled the rivers below low-water mark, and the provincial Government looked after the rivers above low-water mark, so far as the fish were concerned. He also presented the claim of fishermen to be allowed to catch fish with traps and seines, as the American canning men did on the coast of their territory with the salmon sweeping past on their return to the Fraser. It was a great hardship. "Last year 2,269,245 pounds of salmon were bought by Canadian canners from the American fishermen, who caught our own salmon and sold them to us at a cost of some hundred thousand dollars." The time was coming, according to authorities whom he respected, when Americans would capture the most of our salmon on their way back to their natural spawning-grounds. He urged attention to this matter, even while admitting its serious difficulties and hesitating to express a personal opinion as to the right course to pursue. But he strongly advocated more hatcheries, and pointed to the annual expenditure for this purpose of \$50,000 in the State of Washington.

The Prime Minister thought this fishery question had two sides to it. "The remedy proposed by the honorable gentleman for the grievances of the canners—and I must say these grievances are of long standing—is to transfer the control of the fisheries in the Columbia river to the province of British Columbia. My honorable friend will find on reflection that such a remedy could not be thought of for a moment, because, under the British North America act, the Government and Parliament are powerless in the matter. We can not divest the province of any control which it has under that act, nor can we divest the Dominion of its control over any matter assigned to it by our Constitution."

Sir Louis Davies, in speaking for the Department of Marine and Fisheries, declared that there was no present indication of a falling off in the fisheries, and that there was not the same necessity for hatcheries as there was at the south. However, the Government was building one at Sicamous, and would build another on the Skeena river and, if necessary, at the River's Inlet. As to the matter of trap-nets, he thought an industry worth \$5,000,000 or \$6,000,000 a year to the people of the province was too valuable to destroy in this way. In reply to a question from Mr. Prior as to means for the preservation of the salmon as they came through American waters, the minister said that negotiations on that point had reached an advanced stage when they were broken off by the Alaskan boundary question at the Washington conference. In any case, British Columbia fishermen were not doing badly in their own mode of legal operation. There was an increase in 1899 over the previous year, and he was glad to see that the large undeveloped markets in Japan, China, and other Eastern countries were now being exploited. His own judgment was strongly against permitting the use of trap-nets, and it was founded upon the advice of

expert officers. There would be no justification for the change, as the salmon could be caught in Canadian waters by a less destructive method and in reasonable quantities.

Education.—During the fiscal year 1899-1900 the cost of education to the province was \$307,479, and to the cities \$81,886. There were in operation at the end of that period 4 high schools with 13 teachers, 48 graded schools with 235 teachers, and 246 common schools with 246 teachers. In rural districts these schools were under the control of a board of three trustees (elected), and in the cities of a board of varying numbers. The average attendance during the year was 13,438, and the number of pupils enrolled 21,531. The average actual attendance in high schools was 344, in graded schools 9,013, and in common schools 4,080. One of the most important of the measures passed in the Assembly in 1901 was the public schools bill introduced by Mr. Prentice. By it the school districts of the province were divided into three classes, the basis being as follows: For schools of the first class an attendance of 1,000; for those of the second class of more than 250; for schools of the third class an attendance of fewer than 250. The per capita grant was \$13 and \$15 and \$20, respectively, with a provision of \$300 for each school-teacher. Teachers in the third class were relieved from attendance at normal school.

Mining.—Up to 1901 British Columbia had produced \$62,584,442 of placer gold, \$12,812,860 of lode gold, \$12,380,449 of silver, \$7,619,626 of lead, \$4,362,583 of copper, and \$49,140,917 of coal and coke—a total of \$150,000,000. The annual report of the Minister of Mines for the province, made public June 29, showed a production in 1900 of placer gold, \$1,278,724; lode gold, \$3,453,381; silver, \$2,309,200; copper, \$1,615,289; lead, \$2,691,887; coal, \$4,318,785; coke, \$425,745; miscellaneous, \$251,740. The total was \$16,344,751, against \$12,393,131 in 1899. The increase in every direction was said by the minister in the Assembly to have been most marked. The number of mines in 1899 shipping more than 100 tons was 43, and in 1900 it had risen to 60. In East Kootenay the production of metals increased from \$523,666 to \$2,855,851; in the Slocan district from \$1,740,372 to \$2,063,908; in the coast districts from \$4,094,093 to \$4,805,153. There was a decrease in Trail Creek from \$3,229,086 to \$2,730,300. In coal the Vancouver island collieries showed a gross output of 1,383,376 tons, and the Crow's Nest Pass collieries 206,803 tons. Lead showed the greatest increase in production—\$1,813,017, or 206 per cent. over the previous year.

According to the provincial mineralogist, the mines of the province had paid back in principal and interest to the lenders of the money for their development \$6,529,420 in 1898; \$6,751,664 in 1899; and \$10,069,757 in 1900. There was considerable legislation affecting the mines during the year. The placer mining bill made the claims similar in size to those of the Northwest Territories, and this involved a general increase in creek claims, and bar and dry diggings, while bench and hill diggings were abolished altogether. An important clause compelled judgments affecting mineral claims to be sent to the mining Recorder, and entered in the books of the district concerned. Free miners were allowed to consolidate claims up to ten in number. By the inspection of mines act an uniform code of signals was authorized for use in the mines. Monthly returns were to be made by all mines engaged in treating or shipping ores, and they were to include the quantity of ore mined or treated and the assay

value thereof. Engineers in charge of hoisting-plants were forbidden to work more than eight hours a day.

Lands and Works.—The report of this department for 1900 dealt with roads, trails, buildings, dikes, and timber. By it the Government was shown to have built and maintained 5,615 miles of roads and 4,414 miles of trails in the province. Much necessary work was still being done in the mountainous mining regions. Various public buildings had been erected, and many repairs executed. A new court-house at Rossland, alterations in the Victoria court-house, and completion of the Nelson Registry Office and of a Government building at Atlin were announced. Important surveys were described, and important diking projects indicated. The timber cut on Crown lands was given as 232,831,982 feet, and as yielding a royalty of \$116,415. About 43,000,000 feet were reported upon which no royalty was paid. Including licenses, rentals, etc., the total timber revenue was \$145,766.

Labor Troubles.—This year strikes and labor struggles were numerous and injurious. The salmon-canneries difficulty turned upon the employment of Japanese and Chinamen, and was settled after some deeds of violence had occurred. Mr. Dunsmuir imported Scottish miners to replace the Chinese in his Vancouver island mines, and as soon as their fares had been paid and they had looked around a little most of them decamped to the United States. The trackmen's strike affected British Columbia more, perhaps, than the other provinces, but was general in its application. The Rossland strike was, however, the most important. Immediately after the passage of the eight-hour law in 1899 the Rossland Miners' Union prohibited its members from doing contract work. Men earning \$5 a day under contract had to go to work at the regular scale of \$3.50 a day, and the usual result of having no competition followed in work which was insufficient, and of operating expenses which were higher to the mine-owners than in any other country. Early in 1900 the latter decided, therefore, that they must, in the interest of their shareholders and the mines, revert to the contract system. They declared that no reduction of wages would follow, but the union thought otherwise, and for sixty-six days it succeeded in keeping the mines shut down. Then, on April 3, a settlement was effected by R. C. Clute, K. C., and Ralph Smith, M. P., on the basis of opening up the mines to full capacity at an early date and the right of the companies to employ both union and non-union men. The contract system was then adopted by the miners' union, with a good majority. Friction, however, soon began. The mine managers refused to allow "walking delegates" to visit their properties and interfere with their employees. Agitators declared that the "muckers" were being treated unjustly. At Northport a union was formed and, it was said, a series of aggressive movements were directed against the discipline of the smelter management. The ringleaders in the trouble were dismissed, finally, owing to a conspiracy against one of the foremen, and the strike then began. At first only a few of the men went out, but a campaign of calumny was started in all the mining regions and sympathy directed into a sort of boycott against the Northport smelter. On July 11, by a ballot of 258 out of 340, it was decided by the union to call out the 1,200 men employed in Rossland and its vicinity. The mine-owners declared that the whole trouble was caused by a small clique of agitators, without real reason, and on the day of the strike Bernard MacDonald,

general manager of Le Roi and other mines, made the following statement: "One thousand two hundred men are working peacefully on this hill. Less than half of their number are members of the union. The wages paid average over \$4.25 for miners and are \$2.50 for common labor. The pay-roll average for all our wage employees is \$3.55, which is a higher average than in other mining districts of the West. The eight-hour law for all underground men has been accepted by these companies without any attempt to lower wages. On the contrary, these have been voluntarily largely increased throughout the schedule for miners and various classes of labor, with the single exception of common labor, which was maintained at the figure which has always prevailed."

But 258 men had called out 700 union members and affected 600 other men engaged in the mines. The Board of Trade at Rossland, British Columbia, declared the strike illegitimate. The Carpenters' and Joiners' Union also went out, and the various organizations formulated their demands to Mr. MacDonald. He referred them to the London directors of his mines, and replied finally that they could not be granted. Toward the end of September, after the mines had been closed down more than two months, the strike was settled on a basis very similar to that of April.

Transportation.—When the Premier and Mr. Eberts visited Ottawa, early in the year, they asked the Dominion authorities, in view of the contributions of British Columbia to the Federal exchequer, to assist certain railway enterprises in the province at a ratio of two thirds to one third. Otherwise, owing to overlapping jurisdiction and the peculiarly heavy requirements of the province, it was contended that proper progress would be impossible. The following lines were strongly recommended for immediate cooperation: From Midway, in the Boundary Creek district, to the coast, at some point south of the Fraser river, having a ferry connection with Vancouver island. From the present terminus of the Esquimalt and Nanaimo Railway to some point on the north end of Vancouver island. From some point on the British Columbia seaboard, say at Kitimaat, to some point on the northern boundary of the province, to form part of an all-Canadian line to the Yukon.

"Throughout the center of British Columbia," Mr. Dunsmuir said, "extends a great and comparatively level plateau, admirably adapted for a trunk line of railway, from which would ultimately radiate branch lines to the coast through easy passes, everywhere tapping localities capable of remarkable development and of creating immense traffic—a wonderful natural system of communication, of which a parallel is not presented in any other province of the Dominion."

Nothing came of this at the time, but, during the session of the Legislature, the Government embodied its railway policy in what was called the loan bill, which authorized the borrowing of \$5,000,000 for giving aid to about 1,000 miles of necessary railway. It was new and advanced legislation. It discarded the principle of direct grants or bonuses, and put the matter in the form of a loan repayable at the discretion of the company receiving it, and bearing 2 per cent. interest for five years and 3 per cent. thereafter. It secured to the Government control of rates and supervision of contracts, and overcapitalization was one of the evils its terms were pledged to check. The charge upon the revenue for aid given under the act was to be 1½ per cent. for the first

five years after the subsidy was paid, and ½ per cent. thereafter. The measure finally passed on May 12, after prolonged debates in which the great point was the question of competitive lines under American control or Canadian lines under what was declared to be Canadian Pacific Railway control. Other matters complicated the issue, and the Government was supposed to stand by the Canadian Pacific Railway, and there the subject rested after the disposal of the loan bill legislation. The passage of the following resolution by the Associated Boards of Trade of Eastern British Columbia was one of the important phases of the controversy:

"Whereas, several applications have been made to the Dominion Parliament and provincial Legislature for acts incorporating railway companies to build lines of railway into the province of British Columbia from the United States; and whereas interested parties are strenuously endeavoring to create the impression that such railways, if constructed, would be inimical to the mining and smelting interests of this province; and whereas, in furtherance of their designs, the opponents of the competitive railways have proclaimed that those interested in mining and smelting in British Columbia are opposed to the granting of said charters:

"Therefore be it *resolved*, that the Associated Boards of Trade of Eastern British Columbia, representing every town in the metalliferous portion of eastern British Columbia, and every enterprise whose success depends upon the development of its mineral resources, emphatically declare for free trade in railways, and believe that every bona-fide railway company desirous of building railways in the province should be allowed to do so.

"And be it further *resolved*, that this association is strongly of the opinion that cheap freight rates are essential in building up the mining and smelting industries, and, in the absence of Government ownership of railways, these can be secured only by competition and the control of rates through a railway commission or other effective instrument."

Oriental Immigration.—This question came up for much discussion, and the competition of the Japanese and Chinese was keenly felt. In his appeal to the Dominion Government on Oct. 9, 1900, Mr. Dunsmuir declared that "without lowering the general standard of living necessary to meet the decrease in wages, it is not possible for white labor to exist in the face of a system that has grown up under conditions entirely foreign to Anglo-Saxon communities." The Dominion Government had, however, disallowed the provincial legislation of 1900 on the ground of imperial interests being affected by the attempted exclusion of Japanese. They increased the per capita tax from \$50 to \$100 a head, but this was not considered sufficient; \$500 was asked for, and the laboring interests of the province steadily refused to separate the Japanese from the Chinese in any proposed legislation. The latter the Dominion authorities were reasonably willing to deal with as requested. It was pointed out that these alien workers numbered 15,000 in a population of 150,000 and were steadily increasing, while trouble arose, not only in labor circles over competition in the salmon canneries and the mines, but in politics, through the naturalization in 1900 of 1,166 Japanese and Chinese. On March 13 an Oriental Labor Commission, appointed by the Dominion Government and composed of Messrs. R. C. Clute, K. C., Christopher Foley, D. J. Munn, and F. J. Deane, met in Victoria, and thereafter

at Vancouver and New Westminster in turn. They examined representatives from every interest and business and profession, and held a large number of meetings. The investigation was thorough, the questions most elaborate, and the results interesting. Dealing with the question of employing Oriental miners, one witness said that in Cumberland 261 Chinese and 77 Japanese were employed underground, and 102 of the former and 25 of the latter overground. Another witness said that in Victoria there were 388 Chinese merchants, 530 Chinese servants or cooks, 886 employed in salmon canneries, 197 laundrymen, 198 market gardeners, etc. He gave the total business of Chinese firms in the city as \$1,059,805 for the year ending Feb. 17, 1901; \$107,594 was spent for imports from China, and \$464,369 on goods purchased in Canada, England, and the United States. They had \$573,500 invested in city business, and \$296,000 in real estate. The Victoria Outlook gave the other side when it reckoned the total annual loss to the workmen of Victoria from Chinese competition at \$616,200. Col. Prior, M. P. for Victoria, urged the Government to do something effective in restricting this immigration, and congratulated them and the country upon the action of the Japanese Emperor in commanding his subjects to cease migrating to Canada.

The Mint.—The Dominion Government's action in establishing a branch of the Royal Mint at Ottawa and an assay office in Vancouver was warmly approved by the province, which had so long urged this policy. Mr. Dunsmuir, early in the year, had pressed for it, and declared that Seattle was built up very largely by Canadian gold from British Columbia and the Klondike, which had been taken there for assay, the result being a large purchase of supplies and free expenditure of money by the miners. Gold at the Seattle assay office was handled at the same price as at the mint in Washington, while at Victoria or Vancouver it could only be taken plus the cost of expressage, insurance, and other charges. At Ottawa on Feb. 16 Messrs. F. Buscombe and A. O. Campbell presented a memorial to the Government from which it was seen that out of \$20,166,687 worth of gold received at the Seattle assay office, from Jan. 1 to Oct. 24, 1900, \$16,374,488 was from the Canadian Yukon district, and \$493,116 from Atlin, British Columbia. On July 24, 1901, the Vancouver assay office was opened, with Dr. Haanel as superintendent.

BULGARIA, a principality in eastern Europe under the suzerainty of Turkey, created an autonomous tributary principality by the treaty signed by the representatives of the great powers at Berlin on July 13, 1878. Eastern Roumelia, which was created at the same time an autonomous province of Turkey, in 1885 proclaimed its union with Bulgaria, expelled the Christian governor appointed by the Sultan, and has since been administered as a part of the principality, the Prince of Bulgaria holding the title of Governor-General by appointment of the Sultan. The legislative body in Bulgaria is a single chamber called the Sobranje, containing 157 members, 1 to 20,000 of population, elected for five years by universal manhood suffrage.

The reigning Prince is Ferdinand, Duke of Saxony, born Feb. 26, 1861, the youngest son of Prince August of Saxe-Coburg-Gotha and of Princess Clementine, daughter of Louis Philippe, former King of the French. The heir apparent is Prince Boris, born Jan. 30, 1894. The Cabinet in 1900 was composed as follows: President of the Council and Minister of Foreign Affairs and Worship, T. Ivantchoff; Minister of the Interior,

Dr. V. Radoslavoff; Minister of Public Instruction, Dr. Vatchoff; Minister of Finance, M. Teneff; Minister of Justice, P. Pesheff; Minister of War, Col. S. Paprikoff; Minister of Public Works, T. Tontcheff. The Cabinet was constituted on Oct. 13, 1899.

Area and Population.—The area of the principality proper is 24,380 square miles, and that of Eastern Roumelia 13,700 square miles. The population of the principality in 1893 was 2,312,282, and that of Eastern Roumelia, 998,431; total, 3,310,713, of whom 2,505,326 were Bulgars, 569,728 Turks, 62,628 Roumanians, 58,518 Greeks, 52,132 Gipsies, 27,531 Jews, 3,620 Germans, 928 Russians, and 30,302 of other nationalities. The number of marriages in 1898 was 28,232; of births, 141,046; of deaths, 82,725; excess of births, 58,321.

Finances.—The budget for 1900 makes the total revenue 83,827,863 lei, of which 35,294,900 lei are derived from direct taxes, 29,401,000 lei from customs, 915,000 lei from fines, 5,676,247 lei from fees, 4,486,916 lei from rents and interest, 5,578,000 lei from transportation, and 1,975,800 lei from other sources. The expenditures were estimated at 83,270,370 lei, of which 1,250,380 lei were for the executive, 24,646,849 lei for the expenses of the public debt, 127,180 lei for the Board of Audit, 3,898,439 lei for the Finance Department, 7,238,880 lei for the interior, 3,838,354 lei for foreign affairs, 8,114,526 lei for public instruction, 4,289,584 lei for justice, 20,773,432 lei for the army, 3,229,570 lei for commerce and agriculture, and 5,863,176 lei for public works.

The public debt in 1899 was 290,000,000 lei, bearing 5 per cent. interest. A loan of 25,000,000 lei at 6 per cent. was obtained in 1900 on the security of the tobacco tax.

Commerce and Production.—The total value of imports in 1899 was 60,178,000 lei, and of exports, 53,467,000 lei. The imports of textiles were 20,676,000 lei in value; of metals and metal manufactures, 5,455,000 lei; of machinery and tools, 5,329,000 lei; of colonial goods, 4,702,000 lei; of mineral oils and gums, 2,697,000 lei; of hides and leather, 2,849,000 lei; of wood and wood manufactures, 2,677,000 lei; of glass and minerals, 2,162,000 lei; of drugs, chemicals, and colors, 2,050,000 lei; of paper and paper materials, 1,547,000 lei; of spirits, 1,092,000 lei; of animal food products, 839,000 lei; of cereals, 670,000 lei; of animals, 321,000 lei; of perfumery, 120,000 lei; of all other merchandise, 6,992,000 lei. The exports of cereals were 32,801,000 lei; of animals, 4,764,000 lei; of textiles and textile materials, 4,075,000 lei; of animal food products, 3,458,000 lei; of hides, skins, and leather, 3,184,000 lei; of perfumery, 2,663,000 lei; of wood and wood manufactures, 690,000 lei; of metals and metal goods, 592,000 lei; of gums and mineral oils, 285,000 lei; of spirits, 84,000 lei; of drugs, colors, and chemicals, 82,000 lei; of tools and machines, 80,000 lei; of colonial goods, 69,000 lei; of glass and minerals, 31,000 lei; of paper and paper materials, 21,000 lei. The imports from and exports to various countries in 1899 were valued in lei, or francs, as follow:

COUNTRIES.	Imports.	Exports.
Turkey.....	6,484,000	21,200,000
Austria.....	18,441,000	4,160,000
Great Britain.....	12,343,000	9,874,000
Germany.....	8,543,000	3,696,000
France.....	3,225,000	4,915,000
Belgium.....	1,549,000	3,215,000
Italy.....	3,195,000	1,026,000
Russia.....	2,181,000	152,000
Roumania.....	1,658,000	543,000
Other countries.....	2,559,000	4,680,000
Total.....	60,178,000	53,467,000

The imports from the United States were 204,051 lei, and exports to the United States 546,245 lei in value. The land tax in Bulgaria is 10 per cent. of the produce, as in Turkey, paid often in kind. Of the total area of 9,750,500 hectares, 48 per cent. is pasture, 25½ per cent. farm and garden land, and 17½ per cent. forest. Wheat is the chief crop, and much of it is exported. Wine, tobacco, and silk are important products. Of attar of roses, 4,327 kilograms were made in 1900. In the Government coal-mines near Pernik, 125,000 tons are raised annually.

There were entered during 1899 at Bulgarian ports 10,501 vessels, of 2,539,748 tons, and cleared 10,393 vessels, of 2,523,831 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1900 was 970 miles, of which 785 miles belonged to the Government.

The post-office in 1898 carried 10,317,000 letters, 2,661,000 postal cards, 10,779,000 newspapers, books, and circulars, and 304,000 money letters and postal orders of the total amount of 29,900,000 francs in the internal service, and in the external service 3,579,000 letters, 606,000 postal cards, 4,642,000 newspapers, books, and circulars, and 82,000 money letters and orders amounting to 8,939,000 francs. The postal and telegraph receipts were 2,921,831 francs; expenses, 3,127,723 francs. The Government telegraphs had a length of 3,270 miles, with 6,740 miles of wire. The number of internal paid messages was 1,053,494 in 1898; of foreign messages, 230,173; of service messages, 58,740; total, 1,342,407; receipts, 1,032,400 francs. There were 5 telephone circuits with 303 miles of wire in the towns and 5 interurban circuits with 925 miles of wire.

Political Affairs.—Depending entirely on agriculture and the exportation of cereals, when crops fail the people of Bulgaria are poor. After three successive short crops the situation became precarious in the autumn of 1900. The Government was embarrassed as well as the people, and issued 16,000,000 lei of notes payable in silver. Notes payable in gold previously issued could not be redeemed because there was no gold, but they were declared to be valid at the national bank for debts payable in gold or for foreign exchange. The national bank, however, refused to accept them except at a discount. The Government then agreed to pay them in silver with the premium added. For part of the salaries of officials warrants were given. The Government planned new taxes in the guise of monopolies of tobacco, salt, and petroleum. Direct taxation was already very heavy. The old tithes, requiring the cultivators to give up to the Government a tenth of the harvest every year, were abolished by the Stoiloff ministry, which created in their stead a land tax. In 1900 the tithes were again put into force, while the land tax continued to be collected also. The tax-gatherers met with forcible resistance when they demanded the tithes. The tithes, which are paid in kind, amounted to 25,000,000 lei for 1900. The land tax, payable in cash, yielded only half of the 18,000,000 lei estimated because the peasants had no money. The Cabinet succumbed, in December, 1900, to the internal and external difficulties that beset it, but Prince Ferdinand requested the principal ministers to remain in their posts and carry on the business of the country as a Cabinet of Affairs, only he insisted that Gen. Petroff, who was without party affiliations, should be included as Minister of the Interior. There are half a dozen factions in Bulgaria grouped about as many leaders, and whichever one is in power at the moment of a general election is able to

secure an overwhelming majority, because the local officials put the tickets of the Government candidates into the hands of the docile peasants, and those who are not docile the gendarmes drive away from the polls. The party chiefs were so numerous and all of them so ambitious that it became impossible to form any coalition ministry that would hold together. Prince Ferdinand resolved to ascertain, if possible, the genuine political sentiments and preferences, and determined therefore to have the approaching election conducted without the interference of politicians and under the protection of the military. This temporary government negotiated for a loan of 80,000,000 lei with French and Dutch bankers to enable it to continue the public works that were in progress and to pay off an advance of 25,000,000 lei obtained in Germany at the beginning of 1900 and liquidate floating debt and arrears of the Turkish tribute. For the new debt the tobacco monopoly, estimated to yield 15,000,000 lei a year, was pledged. Before the arrangement was completed M. Ivantchoff's Cabinet resigned, and Gen. Petroff, on Jan. 25, 1901, formed a provisional Cabinet to conduct public business until after the elections. The crisis arose over a question of appointments. Gen. Petroff found it necessary to remove several officials who were active partisans of M. Radoslavoff. The party leaders who remained in the Cabinet coveted the posts for their own followers, and when Gen. Petroff would not allow them to dispose of the vacant offices, M. Tontcheff, leader of the South Bulgarian Liberals, resigned, and M. Ivantchoff followed his example. The remaining members of the Cabinet were not faction leaders or politicians of importance. They were retained in their places, and with Gen. Petroff and Col. Paprikoff in control the election was expected to be free from coercion for the first time and the gendarmerie to be employed only for the purpose of preventing any recourse to violence on the part of the contending factions. Consequently over 800 candidates presented themselves, and the electioneering was more lively than had ever been seen in Bulgaria before. The hope that any one party would emerge with anything approaching a majority was disappointed. The three strongest ones together would form only a slight majority. The Stamboloffists, Zankoffists, Stoiloffists, and Karaveloffists were the most numerous, while Radoslavoff made a pitiful showing. There was a group which adhered to the existing ministry; the Peasants' party and the Socialists were represented, and the Turks sent their own representatives. All the party leaders were pledged to abolish the tithes. The elections were carried out with impartiality as far as Gen. Petroff could direct, but in some districts soldiers interfered for the purpose of aiding Zankoffist candidates. The Petroff Cabinet resigned on Feb. 26, and on March 4 a Cabinet of Karaveloffists and Zankoffists was formed, to which the Stoiloffists offered their support. It was composed as follows: Prime Minister and Minister of Finance, Petko Karaveloff; Minister of Foreign Affairs, M. Daneff; Minister of the Interior, Michael Saraoff; Minister of Justice, Alexander Radeff; Minister of Agriculture and Commerce, Alexander Rudskanoff; Minister of Education, Ivan Stavlikoff; Minister of Public Works, Ivan Belinoff; Minister of War, Gen. Paprikoff. In the new Cabinet Gen. Petroff retained the portfolio of the Interior and took that of Foreign Affairs *ad interim*, Col. Paprikoff remained Minister of War and took the portfolio of Public Works in addition, M. Dantchoff became Minister of Justice and Minister *ad interim* of

Agriculture and Commerce, and M. Bontsheff took charge of the Department of Finance. The Ivantchoff Cabinet had promised economies, but was unable to effect them. The war budget, which absorbs more than a fourth of the revenue, could not be cut down in a country where the army has as much political influence as it has in Bulgaria, nor could savings be effected in the civil service, where all the functionaries down to the pages and doorkeepers are turned out with each change of ministry, to be replaced by creatures of the party in power. The elections for the Sobranje took place on Feb. 11. The following of the late powerful ministers dwindled to almost nothing, while the strong chiefs of other days who had long been excluded from public life turned up at the head of considerable factions. The Macedonian agitation was aggravated by the distressful economical situation of the country, and one of its consequences was the aggravation of that situation for Bulgarians and still more for Macedonians, many of whom migrate annually into Bulgaria and Roumania for work, but were unable to do so this year owing to the difficulty of passing the Turkish frontier and to the quarrel between Bulgaria and Roumania. Saravoff, the president of the Macedonian Committee, had been sentenced to death by the Roumanian court for procuring the murder of a Bucharest professor, but the Bulgarian Government refused to deliver him up, and no Bulgarian minister dared to deal harshly with the Macedonian Committee, although its methods were criminal and the subject of warnings and complaints from several European governments. The Turkish Government treated Macedonians with the utmost severity, with the full approval of the powers. Often the innocent suffered for the guilty. Turkey had 150,000 soldiers massed on the frontier to put down the threatened rising. Macedonian refugees in Bulgaria petitioned the Sultan to let them return if they could find means of gaining a livelihood in Macedonia. The agitation for the emancipation of Macedonia from Turkish rule and its annexation to Bulgaria, an aim which ran counter to similar Servian, Greek, Roumanian, and Albanian national ambitions and defied not only the military power of the Turkish Empire, but the concert of Europe, was so popular in Bulgaria that no government dared to suppress the Macedonian Committee or even punish crimes committed by its members. The agitators were discharged officials, retired officers, politicians fallen from power, and idle adventurers of every type. They obtained money by blackmail and intimidation, and did not shrink from murdering men who threatened to show them up. Bulgarians were not required to contribute to the fund from which they lived, but foreign merchants, Roumanians, and others, especially Turkish subjects and Spanish and Polish Jews. They assessed sometimes the entire Jewish colony in a town, sometimes individual Jews. The committee, which has been in existence since the Russo-Turkish War of 1877, had Macedonian bonds printed, which were offered to some of the victims of its extortions at 50 per cent. of their face value. Rifle clubs were organized throughout Bulgaria. The part of Macedonia bordering on Eastern Roumelia was to be redeemed first, and the ostensible purpose was to make it an autonomous Christian province of Turkey, to be ultimately absorbed in Bulgaria, as Eastern Roumelia was, if not occupied at once by Bulgarian patriots and annexed without passing through the intermediate stage. Col. Petroff took more vigorous measures to curb the agitation than any of his predecessors, and thus provoked the enmity of the agitators and the

attacks of Karaveloff, the leader of the Liberal party, as well as of the Russophile Zankoffists, who have always abetted the agitation. The Macedonian Committee pretended that it still enjoyed Russian support, as it did at times in the earlier part of its career, although the Russian Government, as well as other European governments, had unmistakably intimated at Sofia and at Constantinople a desire that the Bulgarian Government should suppress the present agitation and fulfil its international obligations by proceeding against the lawless Macedonian Committee. Gen. Petroff showed a determination to put a stop to blackmailing and personal violence on the part of agents of the Macedonian Committee by warning the prefects against countenancing any infractions of the law. He also ordered the suppression of the rifle clubs, but he did not see that his order was carried out, nor did he proceed to the arrest of Boris Saravoff and his associates, who since they took charge of the agitation in May, 1899, had degraded it by their methods until proceedings of the Macedonian Committee had become an international scandal. The course that the new Government would pursue toward the Macedonian Committee was problematical, notwithstanding the encouragement the members of the ministry had given to it for electioneering purposes. Karaveloff and the Zankoffists were not men to condone methods that brought the Macedonian movement into disrepute, the new Minister of the Interior, who was an old leader of that movement, least of all, nor could the demands of Roumania, the warnings of the powers, or the complaints of Turkey, accentuated by vigorous repression in Macedonia, be continually disregarded. Unless the dangers of the situation were removed the necessary financial aid from European money markets would not be forthcoming. The agitators took heart, however, when their professed friends came into power. The rifle clubs again began openly to train volunteers. Whatever important move the new Cabinet in political matters made was believed to have the previous approval of the Russian Government.

The Sobranje met in extraordinary session on March 7. The new ministry stated that its task would be to bring about an equilibrium in the budget and end the financial crisis and to strengthen the bonds that unite Bulgaria to her deliverer, Russia, and develop good relations with neighboring states. This announcement gave no encouragement to the Macedonian Committee. The Porte took more energetic measures than ever to suppress the conspiracy that honeycombed Macedonia. The evidence of an intended insurrection was apparent. Agents of the Sofia body were found guilty of blackmail and assassination in various parts of Turkey and were executed. The Turkish Bulgarians were organized in revolutionary bands pledged to obey secretly all orders coming through local committees from the Macedonian Committee, which provided them with weapons. Murder and other political crimes were authorized, and the perpetrators were reported to Sofia for reward; but acts of personal vengeance and of pillage were prohibited, and those who committed them must suffer death. Every political murder must, however, have the sanction of the president of the Macedonian Committee. The chief of every band of 5 or 6 members received his appointment from Sofia. The members of different bands should not communicate with each other. The death penalty was threatened for desertion in action or for any disposition to betray the secrets of the organization for gain. The Porte demanded in energetic language that the Bulgarian Government dissolve the Macedonian Com-

mittee and its branches which were organizing armed bands on the frontier. Gen. Paprikoff issued military regulations forbidding military officers to have anything to do with the revolutionists and restricting the activity of the latter. This so incensed them that they attacked Prince Ferdinand in their newspaper organs. On April 5 Boris Saravoff and the other officers of the Macedonian Committee were arrested on a warrant issued by the magistrate who investigated the charges made by the Roumanian Government relative to the murder of Prof. Mihaileano. This sud-

den action of the authorities, occurring only a few days before the date of a Macedonian congress arranged by the agitators, occasioned riots and street fighting in Sofia. The untrustworthy chief of police was superseded by an army officer. The excitement was not widespread, and it soon passed over. The general feeling was one of relief. The arrested leaders, Saravoff and Stojanoff, were tried in August for complicity in the murder of Fitoffski, a Turkish spy, and Kovatcheff and Treloff for having planned the murder of Prof. Mihaileano. All of them were acquitted by a jury.

C

CALIFORNIA. (See under UNITED STATES.)
CANADA, DOMINION OF. A federal union of British provinces in North America; area, 3,458,400 square miles, with a population of 5,500,000.

Government and Politics.—By the general elections of Nov. 7, 1900, as shown in the completed returns, the House of Commons of Canada stood, nominally, as follows at the beginning of 1901: Liberals, 128; Conservatives, 79; Independents, 6. Giving the Independents to the Government, this would leave 134 Liberals to 79 Conservatives, against the vote in the preceding Parliament of 136 to 77. The Government at the beginning of the year was as follows, including the Earl of Minto, who had been sworn in as Governor-General on Nov. 12, 1898: Premier and President of the Privy Council, Sir Wilfrid Laurier; Minister of Trade and Commerce, Sir R. J. Cartwright; Secretary of State, Hon. R. W. Scott; Minister of Justice, Hon. David Mills; Minister of Marine and Fisheries, Sir L. H. Davies; Minister of Militia and Defense, Hon. F. W. Borden; Postmaster-General, Hon. W. Mulock; Minister of Agriculture, Hon. S. A. Fisher; Minister of Public Works, Hon. J. Israel Tarte; Minister of Finance, Hon. W. S. Fielding; Minister of Railways and Canals, Hon. Andrew G. Blair; Minister of the Interior, Hon. Clifford Sifton; Minister of Customs, Hon. W. Paterson; Minister of Inland Revenue, Hon. M. E. Bernier; Ministers without portfolio, Hon. R. R. Dobell and Hon. J. Sutherland; Minister without portfolio, and Solicitor-General, without a seat in the Cabinet, Hon. Charles Fitzpatrick.

Parliament met in its first session at Ottawa on Feb. 7. The Hon. L. G. Power was elected Speaker of the Senate, and Mr. L. P. Brodeur Speaker of the Commons. The Earl of Minto opened the Houses with an address from the Throne, of which the following are the significant passages:

"My Government has learned, with great satisfaction, of the progress being made with the Pacific cable scheme, and I trust that nothing may occur to delay its early completion. Last summer I made a tour through Canada as far as Dawson City, and was everywhere received with unqualified proofs of devotion and loyalty. During my journey I was, from personal observation, much impressed with the great activity displayed in the development of the mining and agricultural industries of the country, and with the substantial increase in its population. The thrift, energy, and law-abiding character of the immigrants are a subject of much congratulation, and afford ample proof of their usefulness as citizens of the Dominion.

"It gives me great pleasure to note the excellent display made by Canada at the Universal

Exposition in Paris. The fine quality and varied character of Canadian natural and industrial products is evidenced by the number of awards won in nearly every class of the competition. It is a remarkable testimony to the effectiveness of our cold-storage transportation facilities that fresh fruit grown in Canada secured a large number of the highest awards. It is extremely gratifying to observe that, as a result of the display of Canadian resources, considerable foreign capital has found its way to Canada for investment, and large orders from foreign countries have been received for Canadian goods.



RT. HON. SIR WILFRID LAURIER,
G. C. M. G.

"The improvement of the St. Lawrence route continues to engage the very careful attention of my Government. During the past year ship canals have been widened and deepened, additional lights and buoys have been provided, and in a short time there will be telegraph and cable communication with Belle Isle. These additional securities will tend to make safer and more efficient than ever our great waterway between the lakes and the Atlantic. I am glad to observe that the revenue and the general volume of trade continues undiminished, and even shows a moderate increase over the very large figures attained during the past year."

The address in reply to the speech from the Throne was moved on Feb. 11 by Hugh Guthrie, and seconded by Charles Marcell. Mr. Guthrie referred to the death of the Queen, the coming royal visit, and the general prosperity of the country. The latter development, "if not entirely, is very largely the result of the well-directed efforts of the administration." He dealt briefly with the position of the farmers, the importance of the preferential tariff, and the gallantry of Canadian troops in South Africa. Mr. Marcell referred particularly to the loyalty of his people in Quebec. "I thank Heaven that we, French-Canadians, should have had at Paardeberg and upon other battle-fields representatives of our nationality." He suggested that the Canadian flag should have a simple maple-leaf on a red field, and in connection with the Union Jack,

instead of the Canadian coat-of-arms, and then proceeded: "Our fellow-countrymen have upheld the British flag in this country. And as to us, the young generation of to-day, we mean also to uphold the same flag." Mr. R. L. Borden, the Conservative leader, followed with a short speech, in which he denied that the Government had been responsible for the public prosperity, and quoted one of its supporters, John Charlton, as declaring that "it was due to the blessings of Providence and to causes beyond the control of the Canadian Government." He asked why the imports to Great Britain in the first three years of Liberal rule had only risen \$4,000,000, while those from the United States had increased \$34,000,000. He expressed regret that adequate recompense had not been meted out to the returned soldiers from South Africa: that the fast Atlantic line project was still dormant; and that no reference had been made in the speech from the Throne to the subject of the Washington negotiations, and especially to the question of the Alaskan boundary. Sir Wilfrid Laurier followed and joined Mr. Borden in congratulating the mover and seconder of the address, and explained that the Imperial Government intended to do something in the way of pensions and allowances to the soldiers. If these were not sufficient, he had no doubt that "Parliament would be well disposed to supplement them by an extra grant." When the war was finished conditions might, he thought, permit a resumption of the Atlantic line negotiations. As to the Joint High Commission: "It is still in existence, and we intend at the earliest possible moment to resume negotiations." The address then passed without division, and after an unprecedentedly short discussion.

During the session that followed and was protracted on May 23 interesting and important debates took place. The coronation oath of the King was discussed at length, and a resolution was carried asking the imperial authorities to modify its terms so as to eliminate any offensive allusions to Roman Catholicism. The South African war was debated for many hours upon a motion presented by Henri Bourassa condemning the British Government for entering upon the contest, and urging its termination by granting independence to the Boers, subject to control of their foreign policy. The motion had only three supporters—Messrs. Bourassa, Monet, and Angers—but was notable for the eloquent speech made by the Premier in defense of the mother country, in approval of the objects of the war, and in sympathy with the Canadian forces which had joined in fighting for British rights and liberties in that far-off land. The address attracted much attention in England.

There was a prolonged debate upon Government ownership of railways, in which Mr. W. F. Maclean pressed that idea as a panacea for all the ills that Canada was heir to; upon the general transportation policy, or lack of policy, of the Government, and their expenditures upon the St. Lawrence route and the harbors of Port Colborne, Montreal, etc., with a view to diverting the grain trade of the far West from American to Canadian channels; upon the Pacific cable scheme, the taxation of Canadian Pacific Railway land grants in Manitoba, the question of a beet-sugar industry, and the manner in which the preferential tariff was injuring the woolen industry. The Government's majority was tested on March 29, when Mr. Borden moved the following, which was defeated on a party vote by 54 majority:

"That in the opinion of this House the welfare of this country requires a pronounced policy

of adequate protection and encouragement at all times to the labor, agricultural, manufacturing, mining, and other industrial interests of Canada.

"That in the opinion of this House the adoption of a policy of mutual trade preference within the empire would prove of great benefit to the mother country, and to the colonies, and would greatly promote the prosperity, unity, and progress of the empire as a whole; and that the present time, when the Commonwealth of Australia is laying the foundation of its fiscal system, is particularly opportune for taking prompt and energetic steps toward the furtherance of this object.

"This House is further of opinion that equivalent or adequate duties should be imposed by Canada upon the products and manufactures of countries not within the empire, in all cases where such countries fail to admit Canadian products and manufactures upon fair terms, and that the Government should take for this purpose all such available measures as may be found necessary."

The subsidy to the Pacific cable was increased so that Canada would take its share of £2,000,000 instead of £1,700,000. The silver-lead industry was encouraged with a bounty of \$5 a ton for lead refined in Canada, the maximum sum not to exceed \$100,000 in any one year, and to terminate in five years. The Dominion lands act was amended so as to give a settler from the United States one year in which to perfect his homestead entry. The alien labor act was changed so as to make the penalty of \$1,000 or less discretionary instead of arbitrary, and giving the right of application to a police magistrate, subject to judicial permission, as well as to the Attorney-General or High Court judges of the provinces. The late Queen's birthday was made a permanent holiday as Victoria Day. To Prince Edward Island was given an annual grant of \$30,000 in consideration of certain failures in the pledge by Canada at confederation to give it steady and efficient steam communication with the mainland. To the Montreal Harbor Commissioners was granted \$1,000,000 to build elevators and improve their terminal facilities. Power was obtained to appoint three additional judges in the Superior Court at Montreal, a chief justice for the Northwest Territories, and two police magistrates in the Yukon. A subsidy of \$100,000 was voted for a steamship-line between Canada and France. The sessional indemnity of members of the Commons was increased from \$1,000 to \$1,500.

The House adjourned on May 23 after a large number of measures had been assented to, besides those already mentioned, the following being the most important:

To incorporate the Canada National Railway and Transport Company.

To provide for the marking and inspection of packages containing fruit for sale.

To amend the Dominion lands act.

Respecting the Canadian Northern Railway Company and the Northern Pacific and Manitoba Railway Company, The Winnipeg Transfer Company, Limited, the Portage and Northwestern Railway Company, and the Waskada and North-eastern Railway Company.

To amend the Yukon Territory act, and to make further provision for the administration of justice in the said territory.

To amend the franchise act, 1898.

Further amending the act relating to ocean steamship subsidies.

To amend the act to restrict the importation and employment of aliens.

To amend the Pacific cable act, 1899.

Respecting the Ottawa Branch of the Royal Mint.

Finances.—On March 14 the Minister of Finance, Mr. W. S. Fielding, introduced his fifth annual budget. It was a cheerful statement, and the minister declared that in almost every department of Canadian industry there had been a most gratifying activity, while trade and commerce had flourished in such a degree as to make the period one of unexampled prosperity. The receipts for the last two financial years, ending June 30, were as follow:

SOURCES.	1898-'99.	1899-1900.
Customs	\$25,316,841	\$28,374,147
Excise	9,641,227	9,868,075
Post-office	3,193,777	3,205,535
Miscellaneous	8,589,404	9,582,227
	\$46,741,249	\$51,029,994

The total increase had been \$4,288,745, \$1,000,000 more than he had expected. The total expenditure chargeable to consolidated fund account—for what may be described as the ordinary purposes of government—was \$42,975,279, showing a surplus of \$8,054,714. This he described as the largest in the history of Canada, the next largest being that of 1899, which was \$4,837,749. There was, however, another class of expenditure called capital expenditure, and composed of items spent for special public works, railways, and railway subsidies. These amounts, including \$3,308,894 for the Intercolonial and Prince Edward Island Railways, \$2,639,564 for canals, \$1,089,827 for public works, \$230,850 for the militia, \$725,720 for railway subsidies, and \$1,547,623 for the South African contingents and the Halifax garrison, amounted to \$9,742,187. The public debt had been diminished by \$779,639. On June 30, 1899, it was \$266,273,446 (net); on June 30, 1900, it was \$265,493,806. On only two occasions in the history of the Dominion had it been possible to announce a reduction in the debt—in 1871, when Sir Francis Hincks was Finance Minister, and in 1882 under the *régime* of Sir Leonard Tilley. He estimated the revenue for the current fiscal year (1900-'01) at \$52,750,000, and the expenditures chargeable to the consolidated fund at \$46,400,000. The total capital expenditure, however, he estimated at \$10,700,000 additional, and thought that probably \$1,800,000 would have to be added to the public debt. As to the condition of the debt generally, he stated that the average yearly increase during the four years of the Laurier administration had been \$1,749,093, against an average of \$6,563,075 in the previous eighteen years.

Dealing with the coming fiscal year, 1901-'02, Mr. Fielding estimated an expenditure of at least \$44,000,000 on consolidated-fund account and \$6,296,000 on capital account, together with supplementary appropriations and bounties on steel and iron production of at least \$1,000,000. He did not expect a much increased revenue, and in this respect thought we had about reached "the crest of the wave of prosperity." The total expenditure upon the South African war was given in detail, and included \$1,547,623 expended in 1898-'99 upon the contingents and the Halifax garrison; \$724,068 expended from June 30, 1899, to Feb. 28, 1901, for the same purposes; and an estimated further expenditure to June 30, 1901, of \$120,000—a total of \$2,391,692. He spoke of the position of Canadian securities in the British market. Our $2\frac{1}{2}$ per cent. loan of 1897, issued at 91 $\frac{1}{2}$, was now quoted at 92, while British consols, which stood at 113 $\frac{3}{4}$ in 1897, were now quoted as low as 97 $\frac{1}{4}$. If, there-

fore, Canadian credit had not materially risen, it had at least not shared in the very natural results which war had brought to the greatest of British securities. The only change in the tariff announced by the minister was the free admission for one year of all machinery used in the equipment of beet-sugar factories.

Mr. E. B. Osler, a financier and capitalist, was selected to reply to Mr. Fielding in behalf of the Opposition. After pointing out that in the past four years the Government had obtained a revenue of \$30,950,000 over the revenue of the preceding four years, he declared that the surplus should have been treated in one of two ways—either to reduce the taxes or to reduce the public debt. Instead of this, it had been spent with a free hand, and the debt was actually increased by \$6,900,000. "Where are all the professions of economy and all the platforms of the present Government when in opposition? They proposed to reduce expenditure, they proposed to cease bonusing railways and other works which they thought should not require public money." The speaker came out very strongly in favor of calling a halt in the squandering of public money in the bonusing of railways and other public works. It was the duty of the Government to cease this policy in the older provinces at least. He declared that there was not the slightest effort on the part of the Government to keep the expenditure within the revenue. Mr. James Clancy took high ground against the alleged extravagance of the Government. They had collected a revenue of \$36,618,000 in 1896, and in 1900 one of \$51,029,000. They had increased the taxation of the people. In 1896 the customs duties were \$3.94 a head, and the excise 63 cents. In 1900 the customs rate had increased to \$5.37, and the excise to 83 cents. The specific increase on tobacco and cigars was \$1,313,337; on sugar, \$737,534; on rice, \$26,000. While the minister had taken \$14,000,000 more from the people than in 1896, he yet glorified himself for a slight reduction in the public debt of 1900. "In arriving at his surplus of \$8,000,000, the honorable gentleman did not include all the expenditures." The receipts for 1899-1900 were \$51,029,994; the total expenditure was \$52,717,466, leaving in reality a deficit of \$1,687,472. It was unfair and misleading to separate the capital and consolidated fund expenditures when both were paid in the main out of revenue.

Sir R. J. Cartwright, Minister of Trade and Commerce, defended the Government's financial position and record. It was true that the debt had slightly increased, but it was for such indisputably good purposes as the expenditure of \$3,500,000 upon the Crow's Nest Railway, the grant of \$1,500,000 for the expenses of the troops sent to South Africa, and the discount of about \$1,000,000 on the 2 $\frac{1}{2}$ -per-cent. loan. As to the future, he was very optimistic. "During the next twenty-five years, in fact during a shorter period, we shall probably have to refund the whole, or very nearly the whole, of our debts. At this moment the charges for our debt and sinking-fund are a little more than \$13,000,000 a year, but if my honorable friend (Mr. Fielding) succeeds in establishing 2 $\frac{1}{2}$ - or even 2 $\frac{3}{4}$ -per-cent. rates and in dispensing with the sinking-fund—as I know he will—the probabilities are that before the twenty-five years have expired we shall have reduced that \$13,000,000 to something like \$6,000,000 or \$7,000,000." He was quite assured as to the nature of the present tariff. Replying to a remark made by Mr. Cochrane, Sir Richard said: "If he means to say that our tariff is a very high revenue tariff, I will agree with him; if he says it is a protective

tariff, I differ." Mr. Borden moved a vote of want of confidence on May 23; and reviewed the whole financial position in his speech. His motion was defeated by 100 to 51 votes.

Trade and Commerce.—Mr. Fielding's budget speech, on March 14, contained important figures relating to the expansion of trade and commerce in the Dominion. The aggregate external trade of Canada in 1899 was \$321,661,213, and in 1900 it was \$381,571,236. The imports for consumption had risen from \$154,051,593 to \$180,804,316. The exports of Canadian produce had increased from \$138,462,037 to \$170,642,369. The exports of Canadian produce to Great Britain rose from \$85,114,555 to \$96,562,875, and to the United States from \$40,462,856 to \$59,666,556. The exports from Canadian mines to all countries rose from \$13,368,150 to \$24,580,266; from Canadian Fisheries, \$9,909,662 to \$11,169,083; from Canadian forests, \$28,021,529 to \$28,663,668; of agricultural products, \$46,743,130 to \$56,148,807; of Canadian manufactures, \$11,706,707 to \$14,224,287. The condition of the imports from Great Britain was shown by the figures of the five years during which he had held office: \$32,979,742 in 1896; \$29,412,188 in 1897; \$32,500,917 in 1898; \$37,060,123 in 1899; \$44,749,730 in 1900. The total trade of Canada had increased from \$148,387,329 in 1896-7 to \$224,420,485 in 1894-'95, and to \$381,517,236 in 1899-1900.

Speaking on the succeeding day, Mr. C. S. Hyman compared the trade of Canada under Conservative and Liberal rule. "During the seventeen years of Conservative rule there was an increase of \$52,015,000, or about \$3,000,000 per annum, while during the five years of Liberal rule it increased by \$157,097,000, or somewhat in excess of \$31,000,000 per annum. Mr. E. D. Smith took up this point and argued that if the Government were responsible for the increases in trade they were also responsible for the decrease. In 1898 the export of wheat had been \$17,313,916 in value, and in 1899 \$10,000,000 less. In 1898 the export of flour was \$5,425,760, and in 1900 \$2,791,885. He quoted similarly other figures, and the total value for agricultural products showed a decrease from \$75,000,000 in 1898 to \$68,000,000 in 1899. They had risen since then, but his point of responsibility was, he contended, still good. The Minister of Customs, in comparing the commerce of Canada with that of the United States, on March 26, said the domestic exports of the United States in the fiscal year 1900, exclusive of coin and bullion, increased 14 per cent., and those of Canada 23 per cent. The grand aggregate trade of the republic increased $13\frac{1}{2}$ per cent.; that of Canada 19 per cent. On the basis of a population of 76,000,000 the foreign trade of the United States was \$32 per head in 1900, and that of Canada, on a basis of 6,000,000 population, was \$63 per head. The aggregate trade of the United States increased 28 per cent. between 1896 and 1900; that of Canada 60 per cent.

The official reports for the year ending June 30, 1901, showed a total export trade of \$195,641,838, of which \$40,143,828 was the product of the mines; \$10,730,999 the product of the fisheries; \$39,271,619 the product of the forest; \$57,703,265, animals and their produce; \$38,594,226, agricultural products; \$17,845,935, manufactures; and \$351,966 miscellaneous. Of the imports, \$181,237,988 were entered for consumption. Of this amount \$105,969,756 were dutiable and \$75,268,232 non-dutiable. From Great Britain \$43,164,297 were imported, and from the United States \$110,485,008. The total trade was \$386,903,157, against \$381,520,286 in 1900.

Agriculture and Live Stock.—In reply to an inquiry, the Minister of Customs stated in the House of Commons, on March 11, that the total export of Canadian cattle to Great Britain in 1894-1900 was 735,204 in number, at a value of \$48,471,963, and an average price per head of \$65.93. To the United States in the same period the number was 233,660, the value \$3,718,435, and the average price \$15.91. The average price to Great Britain had decreased from \$78.43 to \$66.12, and to the United States it had increased from \$14.34 to \$17.98. Figures were given of the export of other annual products to Great Britain and the relative values in 1898-1900 as follow: Butter increased in quantity from 10,000,823 pounds to 24,317,436 pounds, and in value from \$1,915,550 to \$4,947,000; cheese decreased in quantity from 196,220,771 pounds to 185,627,757 pounds, and increased in value from \$17,522,681 to \$19,812,670; bacon and hams in quantity from 85,208,562 pounds to 134,949,129 pounds, and in value from \$8,029,482 to \$12,749,175; eggs decreased in number from 10,280,466 dozen to 10,109,383 dozen, and increased in value from \$1,244,051 to \$1,447,030.

On March 28 Mr. Henderson referred to the great expansion in production of hogs during recent years, and, incidentally, of the value of protection in bringing about this result. In 1889 the farmers were unable to hold their home market against American competition, and the duty was increased upon hogs, mess pork, fresh pork, bacon and hams. In 1890 36,000,000 pounds of hog product were imported from the United States. In 1900 only 12,000,000 pounds were imported. In 1889 only 4,000,000 pounds of hams and bacon were exported; in 1900 there was an export of 135,000,000 pounds. The home market had been preserved, and the British market cultivated.

Militia.—In reply to an inquiry on April 3, the Minister of Militia and Defense said there were 43 battalions of active militia in Ontario, 30 in Quebec, 9 in Nova Scotia, 6 in New Brunswick, 2 in Manitoba, 3 in British Columbia, and 2 in Prince Edward Island. Of these troops, 2,298 were cavalry, 3,843 artillery, 328 engineers, 29,476 infantry; 140 belonged to army service corps, 344 to the bearer companies, and 192 to field hospitals. Sixty-nine corps were armed with Lee-Enfield rifles and carbines, and the remainder with Snider rifles. In camps all troops used the former. There were at the time of speaking 6,164,828 rounds of ammunition at the headquarters of battalions in Ontario; 4,443,826 in Quebec; 232,850 in Nova Scotia; 318,517 in New Brunswick; 195,540 in Prince Edward Island; 181,615 in Manitoba; 479,833 in British Columbia. There were 90 field-guns attached to the various cavalry battalions. There was only one arsenal—that at Quebec.

Later in the session Dr. Borden introduced and carried a measure granting pensions to the officers, non-commissioned officers and men of the permanent corps upon completion of twenty years' service. Widows and children of officers who had served twenty years and were at the time of death on full pay or in receipt of pensions, were to be entitled to receive pensions. Officers, however, were to have their pay reduced by 5 per cent. as a sort of pension sinking-fund.

The Strathcona Horse returned from South Africa during the year, and were presented with colors by the King in person at Buckingham Palace, London. Various imperial honors were conferred upon Canadian officers who had served during the war.

The Royal Tour.—During a great part of the year Canada was stirred with anticipation and preparation for the state visit of the Duke and

Duchess of Cornwall and York. The heir to the throne was returning from a tour that had included many British islands, Australia, New Zealand, Natal, and Cape Colony, and had covered more than 30,000 miles by sea and land under the British flag and within the empire. Loyalty to the King found expression in the welcome that was given to the royal couple as they landed at Quebec on Sept. 16, and pride in the empire was voiced in the reception that was everywhere given to the visitors as they traversed the Dominion from shore to shore.

At Quebec the reception was particularly effective, and the electrical display from fortress, city, and harbor added to the natural grandeur of the scenery, made the evening spectacle wonderfully impressive. A review of 6,000 troops took place on the Plains of Abraham, and later of 11,000 troops at Toronto and 10,000 at Halifax. The royal receptions here and at Montreal were canceled, out of respect to the memory of President McKinley, whose funeral was then taking place. His Royal Highness distributed the medals awarded to the troops who had served in South Africa. In Winnipeg the central feature of the welcome was the presence of immense arches of wheat upon the chief streets; at Calgary, the gathering of thousands of Indians in solemn greeting and an exhibition of Western bronco-riding and sports; at Vancouver, a great gathering of school-children singing patriotic songs; at Victoria, Indian war-dances and the fireworks and illumination of the city and a fleet of men-of-war in the harbor.

At Toronto, seven miles of continuously decorated streets lined by 11,000 soldiers and several hundred thousand people, musical welcome by a trained chorus of 2,000 voices, a crowded reception at the Parliament buildings, state dinners, military review, university honors, and constant cheering—were indications of the interest taken in the royal couple. At Ottawa, the unique feature of the welcome was the visit to a lumbermen's camp and a trip down the Ottawa on a lumbermen's raft. From Halifax the Duke and Duchess sailed on Oct. 21, accompanied by a fleet of warships.

Banks.—In his budget speech on March 14, 1901, the Minister of Finance gave statistics illustrating the condition of banking in Canada. On Oct. 31, 1870, the circulation of Dominion notes had been \$7,450,334; in 1895 it was \$22,893,259; in 1900 it had risen to \$28,113,229. The circulation of small notes (\$1 and \$2) rose from \$3,489,830 on Oct. 31, 1875, to \$7,312,917 in 1895, and \$10,236,116 in 1900. The total circulation of the notes of Canadian chartered banks on Oct. 31, 1870, was \$18,642,895; in 1895, \$34,671,028; in 1900, \$53,198,771. In the Government and post-office savings-banks there was on June 30, 1870, the sum of \$3,337,072; in 1885, \$32,979,076; in 1895, \$44,450,498; in 1900, \$53,149,722. Public deposits in the chartered banks on June 30, 1870, amounted to \$54,074,760; in 1885 to \$95,030,429; in 1895 to \$182,688,227; in 1900 to \$277,256,716.

The annual report of the chief bank in Canada, the Bank of Montreal, was made public on May 14, 1901. Its net profits for the year were given as \$1,537,522, and its 10-per-cent. dividend as \$1,200,000. The capital stock of the institution was \$12,000,000; its reserve fund, \$7,000,000; its notes in circulation, \$6,482,214; its deposits not bearing interest, \$18,184,774; its deposits bearing interest, \$54,501,853. The assets included gold and silver coin, \$2,564,358; Government of Canada demand notes, \$3,472,440; indebtedness by British agencies and banks, \$2,536,166; indebtedness by

foreign agencies and banks, \$2,261,257; call and short loans in Great Britain and United States, \$23,536,628; bonds, debentures and stocks, \$2,889,973; notes and checks of other banks, \$1,690,470; current loans and discounts in Canada, \$58,850,449. The total liabilities were given as \$99,582,059, and the total assets as the same amount.

Relations with the United States.—Speaking in the House of Commons on Feb. 18, Mr. W. F. Maclean referred to the strong tariff policy assumed by the Russian Government toward the United States, and declared that "we must have a little De-Wetteism in our Government. We must have a tariff with a sliding scale which will be friendly to a friendly government, but will be protective as against an unfriendly one." There was only one way to settle questions at issue between Canada and the United States, and that was by means of the tariff. "If they find their goods barred out of Canada, they will quickly come to terms. In 1896 we imported \$57,000,000 worth of goods from the United States. That sum has grown to-day to \$96,000,000 or more, and it is growing steadily. Canada is the best outside market the United States have. But as long as we are fools enough to let their goods come into this country under the present low tariff, while they put up a high tariff to bar out our goods, we shall never get fair treatment from them."

On March 15 Sir Richard Cartwright described the advantage to Canadians of trade with Great Britain over trade with the United States. "Man for man and family for family, our trade with the 40,000,000 of people in Great Britain is very much more profitable to us than our trade with the 70,000,000 people of the United States." We sold to the former about \$96,000,000 worth, and to the latter about \$60,000,000 worth per annum—to the one country \$2.50 a head, and to the other 80 cents a head of its population.

Mr. Clarke Wallace, on March 18, went at length into the tariff relations of the two countries as they affected the agricultural interests of Canada. The best way to live on amicable terms with the people of the United States was to look more closely to our own interests. "Let us make a tariff that will suit ourselves, and if the American people charge high duties on Canadian products, let us protect our farmers by charging high duties on their products." He then quoted a large number of items upon which the American duty was higher than the Canadian.

During the year no direct steps were taken to settle the Alaskan question or the ever-open subject of reciprocity. In the House of Commons Sir Wilfrid Laurier expressed more than once his belief that the negotiations of 1899 would be resumed, but at Montreal, in a speech on Nov. 6, he said there would be no more journeys to Washington seeking reciprocity. It would soon, he thought, be the other way. If nothing was to be done by the United States to make trade relations easier, it was urged by Mr. Charlton, a Liberal leader, and by the *Toronto World*, a Conservative newspaper, that the duties on American products be raised to the full level of the American tariff on Canadian products. There was some expectation, however, that President Roosevelt, in pressing the McKinley policy of reciprocity, would include Canada in a fair offer for mutual interchange. In this connection the universal sorrow in Canada over the death of the President was significant of the kind feeling entertained toward the United States.

The Mint.—On May 17 Mr. Fielding, Minister of Finance, announced in the House of Commons that arrangements had been made for the estab-

ishment in Canada of a branch of the royal mint. The structure, with fittings and plant, was to cost \$300,000 and require an annual outlay of not more than \$75,000. It would make all gold, silver, and copper coins required in the Dominion, and, if time permitted, would have authority to make British sovereigns out of Canadian gold. The officials of the mint would be specialists appointed by the authorities of the Royal Mint in London, and he estimated that the profits on the coinage would about equal the annual expenses. An assay office would be established in British Columbia, and the expenses of freight, insurance, etc., would be paid by the Government, so as to place the miner going to Vancouver in the same position as the miner going to Seattle, and making it possible to receive much of the millions of Canadian gold now going to the American center. The bankers of the country did not approve of this proposal, but Parliament and the people generally appeared to do so, and it soon became law. Mr. E. S. Clouston, President of the Canadian Bankers' Association, declared it to be a dangerous tampering with the currency and interference with a system which was now almost perfect. The trouble about miners and Seattle was due to the fact that most of them were Americans, and that the American steamers were more comfortable than the Canadian. The mint policy would disturb and disorganize the currency system without any adequate return, and bring in the still more dangerous element of a free-silver coinage question. The policy, however, was carried out, the mint was soon in course of erection, and the assay office was duly established at Vancouver.

The Census.—On Aug. 17 the result of the decennial census was announced, and the population of Canada was stated to be 5,338,883, against 4,324,810 in 1881. It was a disappointment to many who had confidently expected that the figures would at least reach the 6,000,000 mark, but was slightly improved by the subsequent addition of 150,000 which had been in some way omitted, and which made the total nearly 5,500,000. The population by provinces was as follows:

PROVINCE.	1891.	1901.	Increase.
Ontario	2,114,321	2,167,978	53,657
Quebec	1,488,535	1,620,974	132,439
Nova Scotia	450,396	459,116	8,720
New Brunswick	321,263	331,093	9,830
Manitoba	152,506	246,464	93,958
British Columbia	98,173	190,000	92,927
Northwest Territories	66,799	145,000	78,201
Prince Edward Island	109,978	103,258	* 5,820

* Decrease.

The city of Montreal had a population of 266,826, or an increase of 46,645; Toronto of 207,971, or an increase of 26,751; Quebec of 68,834, or an increase of 5,744; Ottawa of 59,902, or an increase of 15,748; Hamilton of 52,550, or an increase of 3,570; Winnipeg of 42,336, or an increase of 16,697; Vancouver of 26,196, or an increase of 12,487; Calgary 12,142, or an increase of 8,266. The increases in the other cities ran from 1,000 to 7,000. Halifax had 40,787, St. John 40,711, London 37,983, Victoria 20,821, Kingston 18,043 (a slight decrease), Brantford 16,631. The greatest comparative increase was in Sydney, Cape Breton, which had risen from 2,427 to 9,908, while Valleyfield, Province of Quebec, as a result of industrial progress, increased from 5,515 to 11,055. There was a decided increase in the number of families in the Dominion, the number for 1891 being 921,643, and for 1901 1,043,296. The number of dwellings had also increased from 877,586 to 1,006,652.

Miscellaneous Statistics.—The pulp trade of Canada showed some progress. During the first six months of 1901 Canada shipped to Great Britain \$814,110 worth, against \$2,000,000 received from Sweden, \$2,750,000 from Norway, and \$270,000 from the United States. In May, 1899, Canadian exports of pulp were 5 per cent. of the total imported by Great Britain; in May, 1900, they were 7½ per cent.; in May, 1901, they were 13½ per cent.

In 1900 there were 35,057 miles of telegraph lines in Canada. Of these, 18,286 miles belonged to the Great Northwestern Telegraph Company, 8,886 to the Canadian Pacific Railway Company, 2,912 to the Western Union Company, and 4,973 to the Dominion Government. The Government lines were largely in regions where the traffic was not very great, and where they were more a convenience than a paying business enterprise. The outlay was \$76,965 and the receipts only \$44,529.

On June 12 the two great concerns which had worked a revolution in the coal and steel industry of Nova Scotia at Sydney held their annual meetings at Montreal. The statement of the Dominion Iron and Steel Company showed a bonded indebtedness of \$8,000,000, preferred stock of \$5,000,000, common stock of \$15,000,000, bills payable of \$90,808, and accounts due of \$545,848—a total liability of \$28,636,687. The credit side of the statement showed \$14,551,480 as the value of their property, \$9,668,406 as the value of the plant, \$1,435,849 as due upon preferred stock, \$1,205,583 cash in banks and miscellaneous sums making the same total as the liabilities.

The Dominion Coal Company showed an estimated output of 2,600,000 tons for 1902, against 2,044,877 tons in 1901 and 884,500 tons in 1895. The total assets of the company were placed at \$22,705,718, the surplus balance at \$592,843, the net proceeds from sales, etc., at \$687,294.

Postal Affairs.—The report of the Postmaster-General for 1900 placed the net revenue of the year at \$3,183,984, and the expenditures at \$3,645,646, leaving a deficit of \$461,661, against a deficit in the preceding year of \$398,917. The total number of letters posted in Canada was 178,292,500, the post-cards 27,130,000, the registered letters 4,312,000, the free letters 6,318,000, the newspapers, etc., 32,972, packages 3,803,750, closed parcels for Great Britain and elsewhere 31,988. The number of money-orders issued was 17,128, and the amount \$201,145. The amount paid on money-orders was \$2,797,375. Various improvements were made during the year, such as the use of automobiles in cities, insurance on registered correspondence, the introduction of postal notes and other conveniences for the public.

Criminal Statistics.—The figures for 1900 showed an increase in the number of convictions in every province except Quebec. Nova Scotia showed the lowest percentage, 7.07 in 10,000, as against 26.40 in 10,000 in British Columbia. The total number of the convictions was 5,768, or 10.72 in 10,000, against 10.75 in 1899. There were fewer indictments among the laboring and industrial classes, and a slight increase in the commercial and agricultural classes. The proportion of females was larger than in 1899, but much smaller than in the average of 1884-'96. The figures for 1900 were 5.8 per cent., against the average mentioned of 8.7 per cent. Criminals from foreign countries increased considerably. The proportion of Roman Catholic offenders was 38.8 per cent. and the figures generally were stated to indicate the formation of an habitual criminal class with repeated offenses.

Railways and Canals.—The official reports for 1900 showed a railway mileage in the Dominion of 17,824, and a total paid-up capital of \$998,268,405. Of the cost of these railways the Dominion Government had contributed at the rate of \$8,952 per mile, the provincial governments \$1,756 per mile, and the municipalities \$891. On June 30, 1900, there were 17,657 miles in operation; a train mileage for the year of 55,177,877; a total of passengers carried, 21,500,175; tons of freight, 35,946,183. The earnings of all the roads were \$70,740,270, and the working expenses \$47,699,798. The Government railways—the Intercolonial and Prince Edward Island lines—had a passenger traffic in 1900 of \$1,477,468, a freight traffic of \$2,996,418, and a total earning power of \$4,726,810. Their mileage was 1,511; paid-up capital, \$64,636,200; the passengers carried were 1,939,225; and the freight was 2,213,455 tons. The receipts were \$4,726,810, as against \$3,903,343 in 1899, and the expenses \$4,652,336, as against \$3,893,739 in 1899.

The Canadian Pacific Railway annual report for the fiscal year ending June 30, 1901, was made public in September, and showed gross earnings of \$30,855,203, and working expenses of \$18,745,828. Fixed charges for interest amounted to \$7,305,835, and the surplus for the year was \$5,736,965. The half-yearly dividend to April 1 was \$2,224,086, and to Oct. 1 \$2,248,420. The cost of the railway and equipment was given as \$225,353,616, and that of the ocean, lake, and river steamships at \$4,123,591. The value of acquired securities held against debenture stock issued was stated at \$34,589,455, and of real estate, hotels, and buildings held by trustees for the company at \$1,448,381. Other securities were placed at \$2,190,161, while the balances due on lands sold and town sites was stated at \$3,652,869. Advances to various railways and interests amounted to over \$10,000,000, and the total assets were \$291,518,571. The liabilities included \$65,000,000 of capital stock, \$91,540,082 of other stock, \$47,238,086 of mortgage bonds, \$17,831,000 of other bonds, \$4,364,851 of current accounts, and interest due of \$1,828,279. The total cash subsidies from Dominion Government, provincial governments, and municipalities were \$29,930,590, the proceeds of land grant sales were \$22,663,120, and the surplus earnings account was \$11,122,560. The mileage of the railway was 6,873 in 1900.

The Grand Trunk Railway had a mileage in 1900 of 3,138, and a paid-up capital of \$344,760,896. It carried in that year 6,214,374 passengers and 9,621,705 tons of freight—an increase in each case over 1899. Its train mileage was 16,488,361, its receipts \$20,430,167, and its expenses \$12,999,371. The earnings from passenger traffic were \$5,478,775, from freight traffic \$13,329,695, and from other sources \$1,621,697. The cost of maintenance was \$2,714,895, and of working and repairs \$5,862,117. The general working expenses were \$4,422,359.

The canals of Canada on June 30, 1900, had cost for building and maintenance \$79,043,784, and for repairs, renewals, etc., more than \$16,000,000. In the fiscal year 1900, \$2,760,219 was spent for construction, \$227,627 for repairs, and \$292,609 for maintenance. The revenue was \$322,643, against \$403,879 in 1867, and \$369,044 in 1899. The tonnage of Canadian vessels passing through in 1899 was 4,308,733. The total passengers carried were 213,711 and the freight 6,225,924 tons, while the tolls amounted to \$276,658. The traffic through the Canadian Sault Ste. Marie canal for the season of 1899 included 12,000,000 bushels of grain and 8,000,000 feet of lumber. Through the American

canal went 45,000,000 bushels of grain and 1,000,000 feet of lumber.

Shipping and Fisheries.—The lighthouses in Canada in 1900 numbered 693, and their maintenance cost \$497,535. The wrecks and casualties in Canadian waters, or of Canadian ships in other waters, numbered 151 against 270 in 1899, and the damage done was placed at \$356,848. The revenue of the Marine Department was \$130,229, and the expenditures \$982,562. The vessels built and registered in Canada were 297, with a tonnage of 22,329, and those sold to other countries were valued at \$205,618. The total registered tonnage of seagoing vessels which carried cargo into and from Canada was 10,661,128, an increase of over 1,000,000 tons in the year. The tonnage of vessels employed in the coasting trade was 33,631,730.

The value of the yield in Canadian fisheries during the fiscal year 1899 was \$21,891,706, the chief products being cod, herring, lobsters, and salmon. There were 12,839 vessels and 28,100 men receiving a Government bounty in that year. The expenditure of the Government upon fisheries in 1900 was \$411,717, and the revenue \$88,407. There were, in 1899, 18,708 men employed in lobster canneries, 8,970 in vessels, and 70,893 in boats—a total of 79,863 Canadian fishermen. The total value of their vessels, traps, etc., was \$10,149,840. The exports of fish from Canada was \$9,909,662 in 1899, and \$11,169,083 in 1900; while the imports were respectively \$875,851 and \$1,060,708.

Insurance.—The total life assurance carried by Canadian companies in 1900 was \$267,392,184, an increase of \$15,000,000 during the year. The net premiums received were \$9,211,082, and the assurance issued and taken was \$38,602,589. The policies that became claims amounted to \$3,131,554. Of the rest of the business, British companies did \$30,414,376—a slight increase—and received \$1,371,430 in premiums, and American companies \$125,155,863—an increase of \$12,000,000—with premiums of \$4,263,181. Canadian companies also did \$35,864,762 of business abroad, and received premiums of \$1,626,198. The total life insurance business of Canada in 1900 was \$303,256,946, with \$10,837,280 paid in premiums.

The fire insurance carried in Canada in 1900 was \$802,181,916, and the premiums collected were \$10,014,279. British companies did \$540,448,620 of business, and received \$6,709,847 in premiums; American companies \$108,127,777, with \$1,370,581 in premiums; Canadian companies \$153,605,519, with \$1,933,850 in premiums. The total losses paid in Canada were \$7,780,001, and the percentage to premiums was 93.70. The accident assurance business amounted to \$111,541,077, with premiums of \$703,520 and claims paid of \$431,521.

CHEMISTRY. Chemical Theory.—While it still seems impossible to break up the atoms by ordinary chemical action, the prospect of effecting that result by electrical methods appears more hopeful. Prof. J. J. Thomson, of the University of Cambridge, has announced that in the course of experiments with the cathode rays and other applications of electricity he has succeeded in determining the existence, weight, volume, and other physical properties of matter 1,000 times more minute than the atom of hydrogen. He calls these particles corpuscles; and on the basis of his discoveries he bases the hypothesis of the corpuscular constitution of matter.

A considerable part of the address of Prof. Arthur W. Rücker as president of the British Association is devoted to the consideration of the validity of the theory of atoms. The author admits that the atom is hypothetical, but shows

that the hypothesis is a useful one in that it furnishes the only intelligible explanation of such phenomena as those of diffusion, expansion, and heat. Reviewing the criticisms that have been made against the theory, he replies to them, and cites certain experiments that have been made recently—such as those of Sir W. C. Roberts-Austen on the interpenetration of gold and lead, and experiments with electrified, highly rarefied gases which seem to bear in favor of it, and concludes that, “in spite of many outstanding difficulties, in spite of the tentative nature of some of our theories, the atomic theory unites so many facts, simplifies so much that is complicated, that we have a right to insist—at all events, till an equally intelligible rival hypothesis is produced—that the main structure of our theory is true; that atoms are not merely helps to puzzled mathematicians, but physical realities.”

Among the various theories of solution, that of Van't Hoff, which regards the dissolved substance in a dilute solution as existing in a gaseous state, has found much favor. But determinations of molecular weight derived by this hypothesis do not agree, especially in the case of electrolytes, with those obtained by other methods or deduced from the chemical formulae. This circumstance, coupled with the fact that the least electromotive force suffices to generate a current in an electrolyte, had already led Clausius to replace the hypothesis of Grotthuss by other theories; but Arrhenius, observing that the anomalies in the osmotic pressure and the freezing-points occur exclusively in solutions of electrolytes, was led to the hypothesis that these contain the acids and salts in a state of dissociation, increasing with the dilution. The hypothesis of electrolytic diffusion has been put by Profs. Angelo Battelli and Annibale Stefanini to a variety of tests in connection with the mechanical phenomena of osmotic pressure, optic phenomena, thermal phenomena connected with freezing-point and boiling-point determinations, and electric phenomena. Many of the results favor the hypothesis of the existence of free ions in solutions, but others are difficult to reconcile with this theory.

Another theory of solutions is suggested, with a new conception of thermal pressure, by Mr. G. N. Lewis in the Proceedings of the American Academy of Sciences. The theory according to which the thermal pressure of any phase is equal to the pressure which the substance would exert if under the same conditions as a perfect gas, arose in the consideration of certain remarkable general laws which treat of heterogeneous equilibrium in which the several phases are subject to different pressures. The author believes that the same assumption is alone sufficient to explain all the laws of dilute solutions.

From a large number of experiments made in the study of the relations between the electric conductivity and the chemical character of solutions, Prof. John Gibson has deduced as the broad principle underlying the results obtained, that in solutions intermolecular reactions tend toward maximum specific electrical conductivity.

The electrolytic dissociation theory of Arrhenius is severely criticized by Prof. Kahlenberg in a paper published in the Bulletin of the University of Wisconsin (No. 47, February, 1901), in which experimental evidence in contradiction of it is brought forward. Prof. Kahlenberg has remeasured the conductivity of a number of electrolytes at zero and 95°, and has calculated the degree of dissociation from the measurements as well as from determinations of the lowering of the freezing-point and the rise of the boiling-point. The

two sets of results he has obtained are not concordant, a fact which the author regards as bearing very strongly against the dissociation theory. Nature maintains, however, that this theory, even though it has not met with universal acceptance, is not thus to be so easily overthrown, especially until some more satisfactory and fruitful alternative hypothesis shall have been put forward to take its place.

Heydenweiller, studying chemical actions of a very mild order, such as the solution of copper sulfate in water and the substitution of iron for copper sulfate—the changes being conducted in a closed vessel—observed that the chemical action was accompanied by a real but minute alteration in weight. In a notice of Heydenweiller's work, Lord Rayleigh mentions the question that arises whether the mass changes as well as the weight. If it does, and it should prove that the total amount of matter involved in a chemical change is not a fully constant quantity, then important revisions will have to be made in physical science, and some facts that are now puzzling may be explained. If, on the other hand, the mass too does not change, and it is shown that mass and weight are not always in strict proportion, the accuracy of certain mechanical constructions in which mass and weight are important factors will be affected.

In a paper on zymic action read before the chemical section in the British Association, Prof. Adrian Brown cited the experimental results of an investigation of the action of invertase on cane-sugar. They confirm the conclusions of previous workers that the action of inversion does not follow the simple law of mass action. But the author does not regard the action as independent of mass influence. He considers that mass influence in inversion changes is restricted by some other and hitherto unrecognized influence, which he believes he has found in the time factor of molecular change.

It was shown in a paper read by G. T. Bailey in the British Association that microscopic examination had revealed that metals occur in two forms, viz., as (a) minute scales or spicules, and as (b) a transparent glass-like substance. The spicules do not vary much in size in the different metals, and have a diameter of from $\frac{1}{1000}$ to $\frac{1}{100}$ of a millimeter. The form (a) passes into the form (b) when the metal is pressed or hammered, and all polished metallic surfaces are covered with a thin layer of this transparent form as with a lacquer enamel.

Chemical Physics.—Prof. James Dewar detailed some of the results of his researches in extremely low temperatures in a Bakerian lecture on The Nadir of Temperature and Some Allied Problems, delivered before the Royal Society. He had found that the helium thermometer, which records 5° F. absolute as the boiling-point of hydrogen, gives 16° F. absolute as the melting-point. This value does not differ greatly from the value previously deduced from the use of hydrogen-gas thermometers, 16.7°. The lowest temperature recorded by gas thermometry is 14.5° absolute, but with more complete isolation and a lower pressure of exhaustion it will be possible to reach 13° F. absolute, which is the lowest temperature that can be commanded by the use of solid hydrogen. The latent heat of liquid hydrogen near the boiling-point is about 200 units, and the latent heat of solid hydrogen is about 16 units.

The order of the specific heat of liquid hydrogen was determined by the author as averaging about 6 between the freezing-point and boiling-

point. Hydrogen therefore follows the law of Dulong and Petit, and has the greatest specific heat of any known substance. The surface tension of hydrogen at its boiling-point was about one-fifth that of liquid air under similar conditions. It did not exceed one-thirty-fifth of the surface tension of water at ordinary temperatures.

Free hydrogen, helium, and neon have been separated from the air by two methods, one of which depends on the use of liquid hydrogen to boil the dissolved gases out of air kept at the boiling-point of nitrogen, and the other on a simple arrangement for keeping the more volatile gases from getting into solution after partial exhaustion. A gaseous material was found in the air that could be separated without the liquefaction of the air. The spectroscopic examination of this matter was reserved to be dealt with in a separate paper by Prof. Liveing and the author.

Helium from the gas at the King's Well, Bath, was subjected by Prof. Dewar to a pressure of 80 atmospheres with part of the narrow portion of the glass tube in liquid hydrogen. On sudden expansion, a mist from the production of some solid body was clearly visible. It proved, however, to be caused by some other material than helium, probably by neon. A similar mist was seen with hydrogen under similar conditions of expansion and certain relations (specified by the author) to its critical temperature; and from this experience applied to interpret the helium experiments, the critical temperature of helium gas was computed to be under 9° absolute. It is now safe to say, Prof. Dewar continues, that helium has been really cooled to 9° or 10° absolute without any appearance of liquefaction. On account of the small refractivity of helium the liquid must be far more difficult to see than liquid hydrogen. The hope of being able to liquefy helium, which would appear to have a boiling-point of about 5° absolute, or one-fourth that of liquid hydrogen, is dependent on subjecting helium to the same process that succeeds with hydrogen, only instead of using liquid air under exhaustion as the primary cooling agent, liquid hydrogen under expansion must be employed, and the resulting liquid collected in vessels surrounded with liquid hydrogen. From a tabular statement of the results of theory and experiment given by the author, it appears that by the employment of liquid or solid hydrogen as a cooling agent, we ought to be able to liquefy a body having a critical point of about 6° or 8° absolute, and a boiling-point of about 4° or 5° absolute. Even then, if liquid helium could be produced with the probable boiling-point of 5° absolute, this substance would not enable us to reach the zero of temperature; another gas must be found that is as much more volatile than helium as helium is than hydrogen in order to reach within 1° of the zero of temperature.

Among miscellaneous observations made by the author in the course of his inquiry is that of the great increase of phosphorescence in the case of organic bodies cooled down to the boiling-point of hydrogen, which is very marked when compared with the same effects brought about by the use of liquid air. Photographic action is still lively, although it is reduced to about half the intensity it bears in liquid air. Some crystals placed in liquid hydrogen became for a time self-luminous on account of the high electric stimulation brought about by the cooling, causing actual electrical discharges between the crystal molecules.

Prof. Dewar, in his lecture on Gases at the Beginning and the End of the Nineteenth Cen-

tury, said that while he had at one time thought he had liquefied helium, he had found that he had not. The gas he had then dealt with had proved to be a mixture of helium with some other gas or gases that can be liquefied, but pure helium had not yet been obtained in liquid form. When it becomes possible to prepare liquid helium in any quantity, we may hope to get down to temperatures lower than any obtained with hydrogen, and approaching closely to the absolute zero.

In the course of the dynamic investigation of the bromination of aromatic compounds, the dependence of the velocity of bromination on the nature and position of the substituting groups of the benzene ring has been studied by L. Brunner, and especially the catalytic activity of the most important bromin "carriers." In respect to this capacity, aluminum, chromium, iron, and thallium salts, compounds of antimony and phosphorus, and iodine have been examined. The catalytic activity of the bromin "carriers" was found to depend upon the nature of the substance which was being disseminated, so that the arrangement of these bodies in a general series according to their activity is now possible. For benzene and bromobenzene the order is aluminum, iron salts, iodine, antimony, phosphorus, halogens.

The investigations of radioactive substances and the properties of radioactivity continue to yield novel and interesting results. M. and Mme. Curie have established the fact that when any substance is placed near a radiferous salt of barium it becomes itself radioactive. The radioactivity persists long after removal of the barium salt, but decreases with time, at first rapidly, and then more and more slowly. A. Debiere observed similar phenomena when salts of barium were placed in intimate contact with salts of his actinium. MM. Curie and Debiere, subjecting radium to air exhaustion in a glass vessel, found that the vacuum steadily decreased through the giving out of a gaseous substance which, when collected, was found to be intensely radioactive. Mme. Curie observed irregularities in the radioactivity of oxid of thorium that have not yet been explained, but for a part of which Owens suggests that air currents might account. E. Rutherford, of McGill University, observed that air which had been kept near oxid of thorium, and was then taken some distance away, retained its conducting power for several minutes, and finding similar powers possessed by other thorium compounds, concluded that a particular radioactive emanation susceptible of being carried off by the air was given off by them. M. Dorn reproduced the experiments of Owens and Rutherford with radiferous salts of barium. Rutherford found that the emanation given off from a specimen of radium was small at atmospheric temperature, but could be enormously increased by slightly heating the radium, so that he obtained in this way 10,000 times the amount of emanation given off at ordinary temperatures. Imprisoned in a closed vessel, the emanation remained radioactive a long time. The results of further experiments pointed to the conclusion that the emanation from radium was a radioactive gas, with a molecular weight probably lying between 40 and 100. Experimenting on the communication of radioactive properties to distilled water, M. and Mme. Curie and M. A. Debiere have observed that under certain conditions water can be made even more active than the body from which the influence is communicated. When kept in a sealed tube the water loses the greater part of its activity in a few days. When in an open vessel the loss of activity is much more rapid, and is more

rapid according as the surface of contact with the air is increased. Solutions of radium salts behave in an analogous manner. From these observations the authors deduce a theory which explains various phenomena of radioactivity. Assuming that each atom of radium acts as a continual and constant source of radioactive energy without knowing precisely whence this energy comes, they find that that of it which is accumulated in a body from a mass of radium tends to dissipate itself in two ways: 1. By radiation (rays charged and not charged with electricity). 2. By conduction to a body in contact or transmission from particle to particle through the medium of gases and liquids (induced radioactivity). The phenomena are similar in their manifestations to those of heat under similar conditions, and the explanation offered is analogous to that given for them.

M. Henri Becquerel has observed that metals receiving the direct rays from a radioactive substance appear to give off a secondary radiation, the penetrating power of which is more feeble than that of the primary rays, and is analogous to the same property of the secondary Röntgen rays discovered by M. Sagnac. The effect of the secondary radiation is such that a metallic plate placed upon a photographic plate, instead of acting as a screen to arrest the radiation from the source, gives, on the contrary, a stronger impression.

Prof. Marekwald, of Berlin, having inferred from the experiments of P. and S. Curie, Giesel, and others, that the barium salt extracted from pitchblende contains the radium salt as an isomorphous constituent, and that the process used by these workers for separating a strongly radioactive salt from the barium compound is probably similar to that in use for isolating the constituents of an isomorphous mixture, fractionally crystallized from water the barium chlorid prepared from pitchblende. He found that pure barium first separated, and then a material, probably the eutectic mixture, which was very rich in the radioactive component. The most strongly radioactive fractions had the power of immediately discharging a charged gold-leaf electroscope when at the distance of half a meter from the latter, and when preserved under colored glass soon turned to a deep-brown color. The radioactive substance was strongly luminescent in a dark room, and on interposing the hand between the preparation and a barium chlorid platino-cyanid screen, the bones of the fingers were seen sharply delineated on the screen. In the course of his address at the British Association, the author exhibited several preparations of "phototropic" substances, compounds which changed color on exposure to sunlight and recovered their original tint on preservation in a dark place. He remarked that the rapidity of change in either direction is considerably enhanced by the temperature.

In an investigation of the physiological action of radium rays, by MM. Henri Becquerel and P. Curie, radiferous barium chlorid carried on the arm in a thin gutta-percha envelope caused at first a slight burning of the skin, resembling a burn, but without pain. After a few days the red area increased and the skin was broken, and a sore still remained fifty-two days after the action of the rays. The effects were considerably stronger and exhibited greater penetrative power when more active material was employed.

M. Henry Becquerel concludes a summary of the studies of this subject with the remark that they show that "a new order of phenomena has

arisen from the study of a new property of matter—radioactivity."

New Substances.—On submitting the three varieties of sulfur to the action of liquefied ammonia at -80° C., M. Moissan obtained no reaction, but on allowing the temperature to rise slowly, solution occurred, at different temperatures, ranging from -38° to -11.5° with the different varieties. From this solution a new compound, sulfammonium, was obtained, of a dark-red color, and having at -23° the composition $(N.H_3)_2S$; at 20° $(NH_3)_2S.2NH_3$, which is completely dissociable at the ordinary temperature and pressure, and possesses the property of being able to add sulfur in the cold to a large number of simple and compound bodies.

In the description of some new organo-metallic compounds of mercury, MM. Auguste Lumière, Louis Lumière, and Chevroliet represent that when alkali phenol disulfonates react with mercuric oxid, compounds are formed of great solubility and presenting some peculiar reactions. They are not precipitated by soda, hydrochloric acid, or ammonium sulfid. Their taste is purely saline, and not metallic, as is usual with mercury salts. The solutions possess great antiseptic power.

The fact that continuous beating of the pulp in the making of paper produces a transparent and elastic mixture which hardens on drying and greatly strengthens the paper has been utilized for the production of a new economical substance. This substance, cellulith, is prepared by a process exclusively mechanical: a beating of the pulp for a much longer time than is necessary for the production of mere paper. After such beating, which may last for from forty to one hundred and fifty hours, until a homogeneous mixture having no trace of fiber appears, the air in the substance is removed by beating for two more hours; what coloring matter may be desired is added, and then the substance is heated. The hot cellulose liquor passes into a vessel having a perforated bottom, through which it drips. On evaporation of the water the pulp hardens, gradually attaining the consistency of horn, and having a specific gravity of about 4. Cellulith may be worked as horn or ebonite is. Combined with sawdust and 30 per cent. of lampblack, a kind of dark ebonite is formed, which is dense and capable of being polished.

In an account of the hexafluorid of sulfur published in 1900, M. Moissan mentioned that other bodies were formed at the same time containing sulfur and fluorin. He has since, with M. Lebeau, made a further contribution to the subject. The compound described is sulfurous fluorid, SO_2F_2 , and it is obtained by the regulated action of fluorin on sulfur dioxide. The conditions of the experiment had to be carefully studied, as the reaction of these two gases is so violent that explosions frequently occur. The new gas is necessarily accompanied by others, because the operation is carried on in glass vessels. The separation of these gases is effected by liquefying the whole at -80° C., and fractionating in a vacuum. Sulfuryl fluorid is a colorless, odorless gas, solidifying in boiling oxygen, melting at -120° C., and boiling at -52° C. Although in some respects it resembles its halogen homologue, it recalls in its stability and inertness in other reactions the properties of the hexafluorid. Thus it is without action upon water, even in a sealed tube at 150° C. M. Moissan remarks that these experiments with fluorin show that although it is undoubtedly at the head of the halogen group, it is a little removed from the others, having spe-

cial and characteristic properties which show affinities rather to oxygen than to chlorine.

In a preliminary account of their investigation of the nature and origin of the poison of *Lotus arabicus*, or the Egyptian vetch, W. R. Dunstan and T. A. Henry show that the toxic property is due to the prussic acid which is formed when the plant is crushed with water, by means of the hydrolytic action of an enzyme, *lotase*, on a glucosid, *lotusin*, which is broken up into hydrocyanic acid, dextrose, and *lotoflavin*, a yellow coloring matter. The authors have continued the investigation, with the object of ascertaining the properties and chemical action of *lotoflavin* and of *lotusin*, and also of studying the properties of *lotase* in relation to those of other hydrolytic enzymes. From *lotusin*, a monobasic acid, *lotusinic acid*, is obtained, which furnishes yellow crystalline salts. With the exception of amygdalin, *lotusin* is the only glucosid definitely known that furnishes prussic acid as a decomposition product. *Lotusin* is isomeric with luteolin, the yellow coloring matter of *Reseda luteola*, and with fisetin, the yellow coloring from young fustic, *Rhus cotinus*. Morin, from *Morus tinctoria*, appears to be hydroxylotoflavin. The amount of prussic acid given by plants of different stages of growth has been ascertained. The formation reaches its maximum about seeding time, and after this diminishes rapidly. The power of *lotase* is rapidly abolished by heat, and is gradually destroyed by contact with alcohol or glycosin.

Tanaform, an antiseptic much employed lately in veterinary practise, and first prepared only a few years ago, is a condensation product of tannic acid and formaldehyde. It is a buff-colored powder, odorless and almost tasteless, insoluble in water, but fairly soluble in alcohol, ether, caustic alkali, and ammonia, and possesses all the antiseptic powers of formaldehyde, but is free from its unpleasant smell and irritant action, while it retains the astringent properties of tannic acid. It appears to be harmless when taken internally.

In the preparation of the dialdehyde of succinic acid by C. Harries, the aldoloxim of the aldehyde is prepared by the method of Ciamician and Dunstedt from pyrrol and hydroxylamin; and this, suspended in water and treated with nitrous acid, gives an aqueous solution of the new dialdehyde, from which the pure substance can be isolated with some difficulty by fractional distillation. Succinic aldehyde is the first member of the aliphatic dialdehydes to be isolated in a purely monomolecular form, and is of interest as being the starting-point for the preparation of the three heterocyclic rings, furane, thiophene, and pyrrol. The ready convertibility of the aldehyde into derivatives of these rings is shown experimentally in the note of the authors.

Hitherto only one organic base, nicotine, has been known as occurring in tobacco. As in most plants producing alkaloids several bases usually occur together, Pictet and Rotschy undertook a search for others in this plant. In the treatment of a large quantity of tobacco extract, three new bases were discovered, which were named nicotine, nicotallin, and nicotemin. The last of these was associated with crude nicotine, with which it is isomeric; but it differs from it in being a secondary base, and in forming a nitrosamin by means of which it can be separated from the nicotine notwithstanding it is present in only a very small amount in the crude base. The nicotine contains two atoms and the nicotallin four atoms of hydrogen less than nicotine.

The osmyloxalates are described by M. L. Wintribert as forming a well-characterized series of

salts. Details are given in the author's paper before the Academy of Sciences of Paris of the preparation and properties of the salts of sodium, ammonium, silver, barium, strontium, and calcium.

Prof. William Ramsey and Morris M. Travers, continuing their examinations of the new gases in the atmosphere during 1900, found that the presence of what they had called metargon was to be accounted for by the fact that in removing oxygen from the mixture of the gases (krypton, neon, xenon, helium, etc.), phosphorus containing carbon was employed. This mixture when burned in oxygen yields a spectrum to some extent similar to that furnished by carbon monoxide, but differing from it in that lines of cyanogen gas are also present. The authors are satisfied that their metargon, the spectrum of which is visible only at high pressure, and only when impure phosphorus has been employed to remove oxygen, must be attributed to some carbon compound. Although their experiments had been numerous, they had not succeeded at the time of preparing their paper (in November, 1900) in producing in quantity any gas yielding this composite spectrum. It could only be obtained by a mixture of carbonic monoxide with cyanogen.

By many repetitions of the process of liquefying by means of liquid air the mixture of argon, krypton, and xenon obtained by the evaporation of air, the authors succeeded in separating the three gases from one another. It was proved that they are all monatomic by determining the ratios of their specific heats, using Kundt's method. Experiments were made, too, on compressibility and observations of the spectra. That these gases form a series in the periodic table between that of fluorine and that of sodium is regarded by the authors as proved from three lines of argument: based upon the steady ratio of 1.66 between their specific heats at constant pressure and constant volume; on the fact that if their densities are regarded as identical with their atomic weights, as is the case with certain diatomic gases, there is no place for them in the periodic table; and because they exhibit gradations in such properties as refractive index, atomic volume, melting-point, and boiling-point, which find a fitting place in diagrams showing such periodic relations. "Although, however," the authors say, "such regularity is to be noticed, similar to that which is to be found with other elements, we had entertained hopes that the simple nature of the molecules of the inactive gases might have thrown light upon the puzzling incongruities of the periodic table. That hope has been disappointed. We have not been able to predict accurately any one of the properties of one of these gases from a knowledge of those of the others; an approximate guess is all that can be made. The conundrum of the periodic table has yet to be solved."

Sir William Crookes has pointed out that in his earlier proposed arrangement of the elements at equidistant intervals on an ascending curve of figure 8, horizontal vacant spaces exist into which the new elements helium, neon, metargon, and krypton may, in consideration of their properties, be appropriately inserted.

The powerful oxidizing acid called Caro's acid, which is prepared either by treating a persulfate with concentrated sulfuric acid or by the electrolysis of moderately concentrated sulfuric acid, or by the action of concentrated sulfuric acid on hydrogen peroxide, has been found by Baeyer and Villiger to have a composition represented by the formula H_2SO_5 . It is gradually changed in solution to sulfuric acid and hydrogen peroxide.

In experiments on the separation of thorium, Mr. Charles Baskerville, of the University of North Carolina, obtained determinations proving the presence of an oxid having unusual specific gravity, which could not be accounted for except by the presence of either a new oxid of a known element having greater density than the usual non-volatile residue after ignition, or of an unknown element. Similar indications were afforded in the experiments on radioactivity. From the insufficient data already obtained, it appears that in case the element be tetravalent, its atomic weight lies between 260 and 280. The author proposes, if the supposed new element is identified, to call it Carolinium, and to give it the symbol Cn. The possibility of this new substance being identical with M. Debiere's actinium is suggested.

B. Brauner, of Prague, also announces the conclusion that thorium does not consist of a single element, because on fractional hydrolysis of ammonium thorium oxalate, fractions are obtained in which the atomic weight of the metal varies from 220 to 232. Supposing there are two constituents, he distinguishes them as Th α and Th β .

Experiments on the transformations of Röntgen rays by matter have shown M. G. Sagnac that the study of the electric action of the secondary rays emitted by a body affords a test of the presence of small quantities of relatively active substances, such as copper, iron, or aluminum. Hence, also, a method of searching for new elements.

Experiments upon the action of high temperature on alcohols, described by W. Ipatieff, show that when alcohols are passed through red-hot tubes according to a method adopted by Berthelot, the corresponding aldehydes are the chief product. In many cases the yields are so good that the method becomes an advantageous one for the preparation of certain aldehydes. The hot tube may be of glass or iron, preferably iron, and the temperature that gives the best yields is about 700° C. Alcohol treated in this way gave 25 per cent. of the theoretical quantity of formaldehyde, isobutyl alcohol about 40 per cent., and isoamyl alcohol from 30 to 40 per cent. of the corresponding aldehydes.

Martignon has observed that the rare earth metals—neodymium, praseodymium, and samarium—are capable of combining with hydrogen when the metal is set free from one of its compounds in the presence of that element. This is effected by heating the oxid of one or other of the metals with metallic magnesium in an atmosphere of hydrogen. If the liberation of the metal is carried out in an atmosphere of nitrogen, a nitrid is obtained. Nitrids of thorium, cerium, and lanthanum have been prepared in a similar manner.

It was observed a few years ago by MM. Sabatier and Senderens that nickel is capable of causing the direct combination of hydrogen with ethylen and acetylen, with the formation of ethane in both cases. The same authors have now shown that reduced nickel is a very active catalytic agent, surpassing even spongy platinum so far as hydrogen is concerned. Thus a mixture of hydrogen and benzene vapor passed over reduced nickel at the temperature of about 200° C., readily gives hexahydrobenzene, no benzene escaping conversion if the hydrogen is in excess. The reaction appears to be a general one, since the homologues of benzene behave similarly. Nitrobenzene is reduced to anilin.

The studies of F. von Kuzelgen show calcium carbid to be a very powerful reducing agent, it being even capable of decomposing compounds of

the alkali metals. Chlorids are much more easily reduced by it than oxids. With most chlorids when once the action is started at any point it usually proceeds throughout the entire mass, and very often with explosive violence. For the reduction of oxids, on the other hand, external heat must generally be applied. Moissan has shown that molten carbid acts on the oxids of carbid-forming metals with the formation of metallic carbids. When, however, the reduction takes place at a lower temperature, the metal is free, or almost free, from carbid. At intermediate temperatures the amount of carbon in the reduced metal would increase until the temperature is sufficiently high—as in Moissan's experiments for the formation of carbid—when carbid alone would be produced. As a rule, however, reaction by means of calcium carbid yields purer metals than if the reduction is affected by carbon alone, since the reaction takes place at a lower temperature. When the carbid is employed in the proper proportion, only traces of calcium are present in the reduced metal. By using a large excess of carbid, however, calcium alloys can be obtained. Calcium carbid can be utilized in the laboratory for various reducing purposes, but its application on a technical scale would be conditioned on the yield of metal. In the case of oxids the yield depends on whether the oxid is easily reduced by carbon or not. Both the calcium and the carbon of the carbid act as reducing agents, the former being the more powerful, as indicated by the differentiation of the general equation into two stages. The greater the difficulty of this reduction of the oxid by carbon, the less will the carbon assist in the reduction—that is to say, more carbid will be required for the reduction, which will then take place chiefly at the expense of the calcium. This being the case, free carbon is liberated, and the larger the quantity of carbon thus set free, the greater the difficulty of fluxing or obtaining a regulus. The reduction of copper by carbid is, according to Moissan, hardly likely to become a technical process. Carbid may, however, become useful in the production of other metals in the pure condition, as, for example, for the reduction of nickel oxid or bismuth oxychlorid. Improvements might be effected in the case of oxids easily reduced by carbon, by adding a certain amount of free carbon to the mixture. Again, if the oxids are difficult to reduce by carbon, if the reduction, for example, takes place chiefly at the expense of the calcium, a saving might be effected by the addition of aluminum to increase the reducing power of the carbid, and to decrease the quantity of carbon. The application of carbid for the reduction of alloys appears to offer better prospects. By proper use of chlorid and oxid, it is possible to reduce simultaneously metals the separate reduction of which offers great difficulty. Alloys can thus be obtained which are not easily prepared by fusing the constituents, owing to differences in the melting-points. Carbid can also become useful in refining metals. The process of reduction by means of carbid is not without hope if it be applied in its proper place. This lies not in attempting to replace existing processes of reduction, but rather in application in cases where existing methods are either useless or give only unsatisfactory results.

Among some striking experiments based upon the affinity of aluminum and magnesium for oxygen, which are described by A. Dubois, is one in which moistened magnesium or aluminum powder is placed upon a scorifier or porous plate, covered with dry magnesium, and ignited. As soon as the combustion reaches the moistened

part an exceedingly brilliant flame appears, which is due to the reaction of magnesium with water vapor. The magnesia thus formed is left in long filaments. Another interesting experiment is upon the reaction of aluminum on alumina. Four atoms of the metal to one molecule of the oxid are mixed; upon igniting they react with vivid incandescence, forming, it is represented, the oxid Al_2O_3 .

It is shown by W. H. Stanger and B. Blount that in preparing cement by the rotary process it is possible to approach the theoretical ratio of acids to bases, and to obtain a stronger and sounder cement than the best cements commercially prepared by the discontinuous process. The raw materials at the works with which the authors are concerned are a calcareous shale and a limestone. These are crushed, dried, finely powdered, and fed mechanically into rotary kilns. The fuel is powdered coal driven in by a blast of air through an injector burner at the lower end of the kiln. An intensely hot flame, readily controllable, is thus produced, and heats the raw materials introduced at the upper end of the kiln, which are caused to travel downward in a direction opposite to that of the blast. The materials are then heated systematically, and at the lower end of the kiln near the burner become converted into clinker. This falls into a rotating cylinder lined with fire-brick, through which is passing a current of air serving to feed the coal-dust flame. A great part of the heat of the clinker is thus regenerated. The clinker is then roughly crushed between rollers that work under a spray of water, and passes through a final rotary cooler into trucks by which it is conveyed to stock boxes over the grinding plant. Thus, from the crushing of the raw materials to the storing of the finished cement, no hand labor is employed, all conveyance, distribution, and transmission being done mechanically.

In a method for the preparation of amids from the corresponding aldehydes described by Messrs. Pickard and Carter, the aldehyde dissolved or suspended in water is shaken with a slight excess of ammonia persulfate and a certain quantity of lime; after the reaction is over no difficulty is met in separating the amid in quantities amounting to 30 or 40 per cent. of the aldehyde taken. The method is said to lend itself to the preparation of alkyl-substituted amids; when it is used for this purpose, potassium sulfid is substituted for the ammonium salt, and the alkylamin is present.

In a new method of preparing anilin and its analogues, by MM. Paul Sabbatier and J. B. Senderens, a mixture of hydrogen and nitrobenzene vapor is passed over reduced copper kept at a temperature of from 300° to 400° C., when the yield of anilin is nearly theoretical. If nickel is employed instead of copper, the reaction goes farther, even at 200° , benzene and ammonia being produced.

Atomic Weights.—In a lecture at the Royal Institution, May 30, dealing with the combinations of carbon, Prof. Dewar exhibited some examples of exothermic carbon compounds, which on decomposition give out heat, and remarked that such bodies, being characterized by the facility with which they passed into new combinations, were especially important as a basis for organic synthesis. An infinite number of carbon compounds were already known, and in addition to those which occurred in the animal and vegetable worlds, chemists were every year preparing thousands of absolutely new ones which had never existed before. Why had carbon this power of

unlimited multiplication of new bodies—a power in which it differed so markedly from other elements? Silicon most nearly resembled it, and was much more abundant in the world, yet in spite of attempts to constitute a chemistry of silicon like that of carbon, chemists were very far from getting the former to make compounds in the same way as the latter. In attempting an explanation they entered a region of speculation, but there was a basis to go upon in the indisputable fact that the smallest chemical unit of carbon combined with four units—not more—of hydrogen. Kekulé, in whose hands and those of Frankland this fact had resulted in the formation of the doctrine of atomicity, threw out the brilliant idea that carbon was capable of unlimited combination with itself, as an explanation of the multiplicity of its compounds, and conceived of the carbon atoms as linking themselves together in a chain. In this way something was lost of the combining power of each atom—for example, while two separate atoms would have altogether eight combining powers, when linked together the combined couple could have only six—but the number of possible compounds was indefinitely increased.

The question of a possible variability in the valency of carbon is involved in certain experiments described by Herr M. Gomberg. By the action of such metals as silver, zinc, and mercury upon triphenyl chlormethane, $(\text{C}_6\text{H}_5)_3\text{Ccl}$, the halogen was removed, and, working in the complete absence of air, the resulting product was not, as would be expected, hexaphenylethane, but an unsaturated body which readily absorbed oxygen from the air and combined directly with the halogens. The author thinks that the only possible explanation of the observed facts lies in the assumption that the substance is really triphenyl methyl, $(\text{C}_6\text{H}_5)_3\text{C}$, in which the carbon is trivalent.

The values obtained for the atomic weights of iodine and tellurium having been inconsistent with their relative positions in Mendeléeef's table, numerous determinations of the atomic weight of tellurium have been made in recent years, the results of which have varied from 127.5 to 128; but all above that of iodine instead of being below it, as required by the periodic law. It was pointed out by O. Steiner that these determinations had been made from the analysis of inorganic preparations, the absolute purity of which from substances of different atomic weights from that of tellurium had not been demonstrated. Taking the diphenyl telluride, $\text{Te}(\text{C}_6\text{H}_5)_2$, a stable and well-defined compound, and distilling without decomposition in a vacuum, this author obtained 126.4 as the approximate atomic weight of tellurium—a figure much lower than the other determinations, and corresponding with the prediction of the periodic table. The investigation is not yet complete.

The principle that the transparency of substances to the Röntgen rays depends upon the atomic weights of the elements contained in the substances, has been applied by A. Benoist to the determination of the atomic weight of indium. He found by this method that if the metal is bivalent its atomic weight is 75.6, but if trivalent it is 113.4. By another process the author found that the atomic weight of indium was nearer to that of silver (108) than to that of arsenic (75). Hence he infers that the higher valency as found by transparency to the Röntgen rays is the more probable one.

The assumption of the atomic weight of 113 for indium, corresponding to the oxid In_2O_3 is con-

firmed by the preparation by MM. C. Chabrie and E. Rengarde of well-characterized alums with cesium and rubidium.

Announcement was made at the annual meeting of the Chemical Society in London, March 28, that a committee of the society had decided to recommend, in reference to a uniform system of atomic weights, (1) that $O = 16$ be taken as the basis of calculation; and (2) that in assigning a number as the atomic weight of any element, only so many figures should be employed that the last may be regarded as accurately known to one unit in that figure.

A method of estimating sulfids, sulfydrates, poly-sulfids, and hyposulfites coexisting in solution, particularly in certain mineral waters, described by M. Armand Gautier, is based upon the fact that sulfydrates, distilled in a vacuum, give up all their sulfuretted hydrogen in excess of that required to form the monosulfid, and this, again, yields the whole of its sulfur on distilling in a current of carbon dioxide.

Chemical Analysis.—All ordinary sulfuric acid contains selenium or oxidized compounds of it, and such compounds can generally be detected in the purer acid supplied to laboratories for pharmaceutical purposes. Two fairly sensitive methods of detecting selenium are described. One is by the use of codein, which gives an intensely blue coloration to the sulfuric solution of selenious acid; and the other is by the precipitation of selenium when sulfurous acid is passed through sulfuric acid diluted with four times its volume of water. M. Ad. Jouve regards the selenium as existing in the sulfuric acid in the forms of selenious and selenic acids. He records experiments in the examination for selenium in raw acetylene passed over sulfuric acid, and adds that the detection of selenium in sulfuric acid is of some interest if the acid is to be used in the free state, whether from the pharmaceutical point of view or under other circumstances in which it might be introduced in small quantities—for selenium compounds are far from being harmless to the human organization.

A very close chemical relationship has been observed by Nencki and Marchlewski between the red coloring matter of the blood and the green chlorophyll of plants. Hematoporphyrin, a derivative of hemoglobin, and phyllocyanin, obtained from chlorophyll, both yield on reduction hemopyrrol, which is probably an isobutyl or methyl propyl pyrrol.

Water containing the most minute traces of lead affords to the naked eye a faint though persistent opalescence, a fact which has given rise to the opinion that the toxic metal is in combination with some organic matters. Of such character are waters that have remained for a long time in new pipes or in old pipes which have been disturbed by some repairs or soldering. Waters exposed when in contact with lead to the silicious and carbonated dust of the air are always contaminated with nitrated particles. For the detection of lead, M. Billoeq uses a zinc reagent in which the soda has been replaced by ammonia. This reagent is added in excess to the suspected water, and left quiet for several hours. The absolutely limpid supernatant water is then decanted off, and the rest is thrown on a filter. The filtration is very rapid, and the dried precipitate is easily detected. This is decomposed with warm acetic acid containing a little acetate of ammonia, and is filtered. The clear acid filtrate is touched with a small glass rod wetted with a solution of chromate of potassium. If the water contains lead, a yellow cloudiness appears, and after the

lapse of some time a precipitate of chromate of lead is formed. Absolutely limpid water gives no trace of lead with this reaction.

In the ordinary analysis of feeding stuffs, it has been the general custom to determine only a few of the many constituents present; for the computation of ratios or for the determination of feeding values; an estimation of the moisture, fat, protein, ash, and fiber is all that is usually required, the percentage of undetermined matter being simply designated "nitrogen-free extract." This method of procedure, though sufficient for many purposes, is not scientifically accurate, and chemists have for a long time felt that a closer study should be made of the various substances or groups of substances, such as ether extract, protein, and fiber, and that more attention should be given to the bodies making up the nitrogen-free extract. Considerable work has been accomplished in such analysis during a few years past. Good workable methods have been adopted for the determination of sugars, starch, and pentosans, and some attempts have been made toward a separation of the various lignine and cellulose bodies that make up the greater part of what is termed crude fiber. In many cases, more particularly in the analysis of grains, the percentages of the various constituents will approximate very closely 100 per cent.; but in other cases, with feeds rich in fiber, a considerable discrepancy still exists. Messrs. C. A. Browne, Jr., and C. P. Bristle describe an analysis they have made on the principles indicated (Pennsylvania State College Agricultural Experiment Station) of a sample of distillery waste. In conclusion, the authors remark that while the sum of the percentages of the different constituents in many feeding stuffs does not equal exactly 100 per cent., the results are as close as can be expected with the present methods of analysis.

Acetylene gas has been found by Jouve to furnish a very delicate test for selenium in sulfuric acid by precipitating it in the elementary condition.

Experiments in the synthesis of some aromatic aldoxims by means of fulminating silver are described by R. Schall and E. Retseh. If a polyhydroxylic derivative of benzene is dissolved in ether, some fulminating silver suspended in the solution, and hydrochloric acid led slowly into the well-cooled solution, the silver fulminate disappears and the hydrochlorid of the new aldoxim crystallizes out. The method has been successfully applied to resorcinol, orcinol, pyrogallol, and phloroglucosinol.

The use of metallic sodium as a reducing agent in blowpipe analysis is recommended by Charles Lathrop Parsons, who finds, contrary to Hempel's experience in that particular, that the reaction takes place with the greatest ease on charcoal. A small piece of metallic sodium is hammered out flat. The substance to be reduced is powdered and spread upon it, pressed into the metal with the hammer, and the whole is turned and kneaded into a little ball with a knife blade. It is then placed upon a slight depression in a piece of charcoal and ignited. A momentary flash ensues, and the reduction is accomplished. The residue is then heated before the blowpipe, and as the sodium oxid and hydroxid immediately sink into the charcoal, any fusible metallic particles collect easily into a button, and may be recognized in the usual manner. Volatile metals, like zinc, oxidize and yield with surprising readiness the characteristic coatings, and on digging up a little of the charcoal, moistening with water, and placing upon a silver coin, the "Hepar" reaction is obtained if

sulfur was present in any form. Applied to minerals the method yields results but little less certain than when pure oxides or salts are reduced. The metallic sodium does not need to be kept under naphtha, but may be supplied to a class in small rubber-stoppered, wide-mouthed bottles. But it must be kept away from water or moisture. Large quantities of sodium must be avoided, or the reaction may become dangerously violent.

Miscellaneous.—The address of Prof. J. H. Long, chairman, before the chemical section of the American Association, was on the Teaching of Chemistry in the Medical Schools of the United States. A historical review of the subject was given, after which the speaker dwelt on the far-reaching importance of chemistry, inorganic as well as organic, to the medical student, and the inadequacy of merely analytical courses. He emphasized the fact that the burning problems of the physiology, the pathology, and the therapeutics, if not of to-day, certainly of the near future, are essentially chemical, and that they are not necessarily confined within the accepted limits of what is called organic chemistry.

Attention was directed in England during 1900 to a considerable number of cases in which persons had shown symptoms of arsenic poisoning after drinking beer; and investigations were set on foot to discover whether the beer in the market was contaminated with this drug, and if so to find the source of the contamination. In very many instances traces of arsenic were found in the glucose supplied to the breweries. More care was then taken in the preparation of this substance, and complaints became less frequent. The whole subject of the presence of arsenic in substances in common use was reviewed by Mr. Alfred C. Chapman, of the Society of Public Analysts, in a paper on Food and Drugs; Some of the Important Recent Events, read before a meeting of Inspectors of Weights and Measures, July 12. The author presumed that the manufacturers would in future take such precautions as would render a repetition of recent experiences impossible; but while this was so, the investigations of chemists had shown that arsenic in minute traces was a very much more frequent impurity than had been suspected. The finding of contamination of a sample of effervescent phosphate of soda by that substance had led to the discovery that arsenic in traces was of very common occurrence in phosphate preparations. Fully 90 per cent. of the 1,000,000 tons of sulfuric acid annually produced in England was prepared from pyrites containing more or less arsenic. This arsenic, sometimes to the extent of 1 per cent., found its way into the manufactured acid, and as this was used in numberless manufactures, it would easily be seen that such manufactured products were all liable to contamination. Traces of arsenic thus found their way into soda, artificial manures, soap, glass, borax, and distilled vinegar, while it had been met with in traces in glycerin, baking-powder, sweets, etc. Besides its occurrence in the arsenicated minerals in considerable quantities, arsenic was found in traces in coal, and consequently in the atmosphere, in many natural river waters, in sea water, in sulfur, in some river waters, and occasionally it might even be present in roots and green vegetables. These facts show how extremely difficult it is to avoid in practise minute traces of this almost ubiquitous substance. In certain cases occurring at Manchester, arsenic had been easily traced back to the fuel used for kilning the malt; and unless fuel entirely free from arsenic was used, malt, dried on the sys-

tem in vogue, must necessarily contain traces of arsenic; although with proper care such traces would be so infinitesimal as to be absolutely negligible in practise.

The investigations of this subject have also led to the discovery of selenium in poisonous doses in the beer, and to the suggestion that it may have been present as an additional agent in other cases of poisoning attributed to arsenic.

The use of sulfuric acid, either as such or in a more portable form as sodium hyposulfite, is advocated by Samuel Rideal as a disinfectant for destroying the bacillus typhosus in potable waters, or in drainage from isolation hospitals.

Mr. M. Ackroyd showed in a paper read in the British Association that when the observation periods are shortened to daily estimations of chlorin, minimal amounts of rainfall are marked by maximum content of chlorin, and *vice versa*.

The conclusion is stated by Samuel Rideal, after the examination of a number of humus residues from the bacterial treatment of sewage, that if the sewage has undergone proper treatment, the small quantity of peaty deposit called by Cameron "burnt-out ash," is of the nature of humus, and practically inoffensive; and he quotes Kenwood and Butler as agreeing that at Finchley in 1900 the deposit from open septic tanks could be removed with little offense, and had been spread without nuisance over small areas of land in the neighborhood. This deposit has also the agricultural value of humus. Like peaty matters generally, it has a function in the property of encouraging, when in small quantity, the nitrifying action in the final oxidation, and itself undergoes slow oxidation to carbonic acid and nitrates.

The quantity of grain harvested when basic slag is used as a manure depends generally, F. W. Daffert and O. Redmair say, on the proportion of phosphoric acid in the slag. The rapidity of the action of the slag is in direct relation with the fineness of the grinding of it, and with its chemical nature. The authors propose for the determination of the agricultural value of slag to depend on the solubility of the total phosphoric acid in formic acid. A good slag yields 90 per cent. of its phosphoric acid to this reagent.

A comparative examination was made by Mr. Leo Vignon, as to ordinary properties, velocity of saccharification, and heats of combination, of cotton cellulose, mercurized cellulose, cellulose dissolved in Schweitzer's reagent and precipitated by acids, and Girard's nitrocellulose. The author found that concentrated alkalis, such as are used in the operation of mercurizing and probably hydrating, depolymerize the cellulose, without conferring any new chemical functions on it. The same is true of diluted acids acting under the conditions necessary for the formation of Girard's hydrocellulose.

It appears, from experiments described by A. Rossel and E. Laudriset, that the purity of acetylene gas is as much affected by the manner in which carbid and water are brought in contact for its generation as by the quality of the carbid employed.

Illustrations of the advantages which engineers have derived from chemical coadjutors are given by Prof. Frank Clowes in a James Forrest lecture on Chemistry in its Relations to Civil Engineering, delivered before the Institute of Civil Engineers. Among them, the author mentions as a most striking instance in which the engineer has been supplied by chemistry with suitable constructive materials the introduction of cheap steel of varying qualities in substitution for costly

steel and other less suitable forms of iron. The Bessemer process was suggested and made successful by the chemical knowledge which was supplied to those who were interested in the procedure. A broad extension of the application to further utilization of chemical knowledge and suggestion is anticipated. The metallurgical chemist and the chemical metallurgist are at present engaged in furnishing metals and alloys new to commerce at the disposal of engineers who can use them, as they are more suitable than others heretofore employed in their various designs. The necessity of chemical knowledge and chemical advice to the gas engineer was enlarged upon. The spheres of the engineer and the chemist are closely connected in the matter of water supply, as well as in that of the purification of sewage, as to which the cooperation of the chemist and the engineer has enabled such cities as London, Manchester, etc., in recent years to carry out on an experimental scale most important trials of natural and bacterial treatment of sewage, and has led to the publication of reports on the subject which will become classical. This experimental work has promoted considerable and valuable development and improvement of the bacterial method.

In studies of the chemical and biological changes that occur in the treatment of sewage on "bacteria beds," E. A. Letts and his coadjutor represented in the British Association that a large portion of the unoxidized nitrogen was found to have disappeared during the passage through the beds. This may have been due either to the escape of the nitrogen in a gaseous state as free nitrogen, or possibly as oxids, or to the passage of the nitrogen into the tissue of animals or vegetables. Both of these causes of loss may operate at the same time. An examination of sewage matter before and after the passage through the beds showed that in nearly all cases the amount of dissolved nitrogen present in the sewage was greater after treatment than before, although, of course, if free nitrogen were evolved, only a minute fraction of it would remain dissolved in the sewage effluent. With respect to the possible biological explanation of the loss, it is pointed out that the sewage beds at Belfast and other places swarm with minute insects (*Podura aquatica*), and that species of worms are also present. These in feeding on the sewage undoubtedly cause a loss of nitrogen.

CHILE, a republic in South America. The Congress consists of a Senate of 32 members elected for six years and of a Chamber of Deputies elected for three years by the direct vote of the people. Senators in the provinces and Deputies in the departments. The President is elected indirectly for five years. Federico Errazuriz was elected President of the republic for the term beginning Sept. 18, 1896. The Cabinet constituted in November, 1900, was composed as follows: Prime Minister and Minister of the Interior, Mariano Sanchez Fontecilla; Minister of Foreign Affairs, Worship, and Colonization, Alberto Gonzalez Errazuriz; Minister of Justice and Public Instruction, Francisco Herbozo; Minister of Finance, Manuel Covarrubias; Minister of War and Marine, Arturo Besa; Minister of Industry and Public Works, Emilio Bello Codecido.

Area and Population.—Chile has an area of 290,829 square miles. The population on Jan. 1, 1900, was estimated at 3,110,088. The number of marriages in 1899 was 13,053; of births, 106,787; of deaths, 86,278; excess of births, 20,509. Santiago, the capital, had 320,638 inhabitants in 1899; Valparaiso, 143,022; Concepcion, 55,458.

The numbers of agricultural and industrial immigrants brought from Europe by the colonization agents of the Government have been 1,402 in 1895, 2,102 in 1896, 870 in 1897, 564 in 1898, and 548 in 1899. The sum appropriated for colonization in 1898 was 616,890 pesos. The Government has large tracts of land for suitable settlers.

Finances.—The ordinary expenditures authorized for 1900 were 11,068,114 pesos for the interior, 2,047,332 pesos for foreign affairs and colonies, 13,265,827 pesos for justice and public instruction, 5,705,955 pesos for finance, 9,766,588 pesos for the army, 7,154,699 pesos for the navy, and 24,407,487 pesos for industry and public works; total, 76,415,002 pesos. The ordinary revenue was estimated at 95,954,390 pesos in currency, and the extraordinary revenue at 22,404,386 pesos; total revenue, 118,358,776 pesos. In 1899 the total revenue was 97,218,070 pesos in currency and 95,948,104 pesos in gold, and the expenditures were 77,267,740 pesos in currency and 78,777,314 pesos in gold.

The public debt on Dec. 31, 1899, amounted to 310,254,183 pesos, 234,289,414 pesos representing the foreign debt, which was £17,571,706 sterling, consisting of £11,441,160 of 4½-per-cent., £5,813,266 of 5-per-cent., £179,900 of 5½-per-cent., and £137,380 of 6-per-cent. bonds. The internal debt was made up of 2,109,155 pesos of 3-per-cent. obligations, 20,827,203 pesos borrowed to release mortgaged lands, 1,903,532 pesos of municipal debts for which the Government is liable, and 51,124,880 pesos of paper money. The paper money was issued by the Government in 1898 after three years of contraction and an attempt to introduce specie payments on a gold basis. The coinage act of 1895 prescribed the coinage of 20-, 10-, and 5-peso gold pieces, called colons, doubloons, and sudcos, and silver pesos, the ratio of 30 to 1 being adopted. From 1895 to 1898 there were coined 42,699,530 pesos in gold and 8,009,354 pesos in silver. When the issue of 50,000,000 pesos of new paper money was authorized in July, 1898, the President was authorized to lend 20,000,000 pesos to the banks at 4 per cent., and to raise a loan of £4,000,000 for the purpose of withdrawing the forced paper currency after four years.

The Army.—The active army is recruited by voluntary enlistment. After serving two years the soldiers are transferred to the National Guard, excepting those who are reengaged as non-commissioned officers. All able-bodied Chileans between the ages of eighteen and fifty are under obligation to serve in the National Guard according to the military law of Feb. 12, 1896, but exemption is granted to very many. The law of Dec. 31, 1896, fixed the maximum strength of the active army at 9,000 men. The infantry are in the main armed with Mauser rifles of a Chilean design, though some carry Mannlichers of 8 millimeters caliber. The cavalry weapon is a Mauser carbine of the Chilean model. The effective strength of the active army in 1899 was 2,835 infantry, 1,745 artillery, 2,092 cavalry, and 315 engineers; total, 6,987 men. There are about 2,400 officers in the National Guard, training in which takes place at the age of twenty, after which the members pass into the sedentary, and at the age of thirty into the passive guard.

The Navy.—The Chilean navy contains 3 armor-clads, the O'Higgins, Capitan Prat, and Almirante Cochrane; the armored cruiser Esmeralda; the monitor Huascar; 4 protected cruisers, the Blanco Encalada, Ministro Zenteno, Presidente Errazuriz, and Presidente Pinto; 3 torpedo cruisers, the Almirante Simpson, Almirante

Lynch, and Almirante Condell; 4 destroyers; 2 gunboats; 2 armed transports; and 7 first-class and 8 smaller torpedo craft. The school-ship Baquedano was not yet completed at the beginning of 1901. The South American Steamship Company, which receives a subvention of 125,000 pesos a year, is under obligation to adapt its 15 steamers for the transport service in case of war. The navy was manned in 1898 by 199 officers, 155 employees, and 3,794 seamen.

Commerce and Production.—The total value of imports in 1899 was 106,260,358 pesos, and of domestic exports 163,106,133 pesos. The values in pesos of the imports from and exports to various countries were as follow:

COUNTRIES.	Imports.	Exports.
Great Britain	44,338,000	110,521,000
Germany	29,749,000	20,922,000
United States	8,198,000	7,350,000
France	5,525,000	9,334,000
Peru	5,185,000	4,248,000
Argentine Republic	2,186,000	305,000
Italy	1,537,000	870,000
Uruguay	1,336,000	829,000
Bolivia		1,124,000
Other countries	8,206,000	7,596,000
Total	106,260,000	163,106,000

The imports of animal and vegetable products was 17,696,659 pesos in value; of textile manufactures, 29,058,119 pesos; of raw materials, 21,689,398 pesos; of watches and jewelry, 2,091,536 pesos; of machinery, 12,695,066 pesos; of household furniture, 5,686,111 pesos; of paper, 2,940,975 pesos; of wines and spirits, 931,831 pesos; of tobacco, 336,268 pesos; of ores and metals, 42,319 pesos; of articles connected with arts and sciences, 837,045 pesos; of drugs, 1,690,254 pesos; of arms and ammunition, 786,709 pesos; of miscellaneous merchandise, 9,970,402 pesos. The exports of mineral substances were 137,637,603 pesos in value; of agricultural produce, 10,597,870 pesos; of manufactures, 3,862,117 pesos; of wines and spirits, 328,615 pesos; of animals and animal products, 5,050,108 pesos; of miscellaneous domestic products, 1,460,424 pesos; of foreign merchandise, 1,573,819 pesos; of coin, 2,595,577 pesos. Of the nitrate export 39 per cent. went to Germany, 17.3 per cent. to France, 13.3 per cent. to the United States, 11.2 per cent. to Great Britain, and 10.9 per cent. to Belgium.

Navigation.—The number of vessels entered at the ports of Chile during 1899 was 7,267, of 10,016,704 tons; cleared, 7,154, of 9,738,769 tons.

The merchant navy comprised 142 vessels, of 71,214 tons, of which 39, of 27,387 tons, were steamers.

Railroads, Posts, and Telegraphs.—The total length of railroads in 1899 was 2,841 miles, of which 1,223 miles belonged to the Government and 1,618 miles to companies. The Government lines cost 85,907,165 pesos to construct; receipts in 1899 were 13,997,800 pesos; expenses, 13,911,783 pesos; number of passengers carried, 6,346,184 pesos; tons of freight, 2,089,330.

The post-office in 1898 handled 55,404,009 pieces of mail-matter in the internal and 6,519,281 pieces in the international service; receipts were 1,791,881 francs, and expenses 2,122,195 francs.

The Government telegraphs in 1899 had a total length of 11,200 miles. The number of despatches was 1,183,691. The length of telegraphs and cables belonging to companies and railroads was 3,860 miles. The length of telephone lines was 11,329 miles.

Internal Affairs.—The presidential election which occurred in Chile in 1901 influenced all

events in the early part of the year. Pedro Montt was announced as the Liberal Conservative candidate early in February, and a month later Jernan Riesco, a nephew of President Errazuriz, was nominated as the candidate of the Liberal Alliance, the Government party. A special session of Congress being called on March 6, the Cabinet resigned to give place to one to be composed of Liberals only. The new ministry was constituted with difficulty after a protracted crisis. One that was formed by Amunategui Rivera on March 15 did not meet with the approval of Congress, which passed a vote of censure on the following day. The President exhibited no haste in appointing other ministers, and strained relations between him and Congress resulted. Julio Seegers, whom he commissioned to form a ministry on April 2, was not successful in his efforts. On April 21 a Cabinet was formed at last, composed as follows: Prime Minister and Minister of the Interior, Anibal Zanartu; Minister of Foreign Affairs, Worship, and Colonization, Augusto Orrego Luco; Minister of Justice and Education, Ventura Carvallo; Minister of Finance, Luis Martiniane Rodriguez; Minister of War and Marine, Gen. Vicente Palacios; Minister of Industry and Public Works, Joaquin Fernandez Blanco. Even then the crisis was not ended. On May 1 the ministry was satisfactorily reconstructed as follows: Minister of the Interior, Anibal Zanartu; Minister of Foreign Affairs, Luis Rodriguez; Minister of Justice, Ramon Escobar; Minister of Finance, Juan Sanfuentes; Minister of War and Marine, Gen. Wenceslao Bulnes; Minister of Industry and Public Works, Joaquin Blanco. On the same day President Errazuriz resigned his office into the hands of the Minister of the Interior until after the presidential election, asking leave of absence from Congress until June 25, on the ground that republican precepts and traditions forbade him to continue in the exercise of the presidential authority when a relative of his own was a candidate for the presidency. Anibal Zanartu accordingly discharged the presidential functions with the title of Vice-President. The regular session of Congress began on June 2. The Vice-President in his message stated that the relations with the Argentine Republic were satisfactory, and that the questions with Bolivia and Peru remained in abeyance. He expressed approval of the idea of arbitration provided it did not interfere with national independence and the rights of sovereignty. The extension of a trunk railroad to the nitrate districts and the laying of a cable were urged as of pressing importance, while public works for which money had been appropriated, causing a deficit of \$6,000,000 in the estimates, could be postponed. New measures on education, law reform, public health, police, and the condition of the working classes were the legislative program. The election for President would be conducted with the freedom guaranteed in the Constitution, and the conversion law would be maintained in its integrity. The presidential election was attended with some disorder. In Valparaiso the police fired on supporters of Señor Riesco, who was elected by a decisive majority over Señor Montt. President Errazuriz died on July 12, and Vice-President Zanartu remained at the head of the executive until Sept. 18, when President Riesco was installed.

The industrial condition of Chile was more favorable than it had been, the price of copper having risen and the crisis in the nitrate trade having been overcome by a combination of the companies for restricting production. The efforts

of the Government to attain sound currency, coinciding with auspicious commercial conditions, had brought Chilean paper money in three years from a discount of 30 per cent. almost up to par. Then there came a relapse early in 1901. Exchange went against Chile because the wheat crop had failed, and instead of having a large surplus for export the Chileans imported \$5,000,000 worth. The succession of Señor Zañartu, the leader of the party that prefers a fluctuating depreciated paper currency, and the uncertainties of the presidential election were depressing circumstances, for it was not supposed that Vice-President Zañartu would help a man to be elected who would faithfully carry out the law that promised a resumption of specie payments on Jan. 1, 1902, for which purpose a fund of \$50,000,000 was being accumulated.

International Disputes.—The state of tension existing between Chile and the Argentine Republic over the interpretation of the treaty delimiting their respective territories in Patagonia was removed by the reference to arbitration. The still unsettled difficulties between Chile and the republics of Peru and Bolivia remain a source of disquiet and irritation in South American politics. The district of Atacama was claimed by Bolivia from the foundation of that republic, but being a desert region it was not occupied or inhabited until Chileans began about 1840 to utilize the guano deposits and later the nitrate found there. The Chilean Government then asserted that the coast belonged to Chile almost up to the Bolivian post of Cobija. Bolivia protested in 1866, and a treaty was then made recognizing a sort of divided jurisdiction over the territory of Atacama. An assertion of sovereignty on the part of Bolivia led to fresh negotiations, resulting in the treaty of 1874, which conceded that the territory, including the nitrate mines and the port of Antofagasta were under the sovereignty of Bolivia, but stipulated that for twenty-five years the persons and property of Chileans should not be subjected to any other contributions than those then in force. A quarrel arose in the following year, and Peru joined Bolivia in the defense of her rights against the alleged aggressive designs of Chile. Chile was victorious in the war, and having occupied not only the province of Atacama but the Peruvian provinces of Tarapacá, Arica, and Tacna, it was stipulated in the treaty of Ancon, concluded with Peru in October, 1883, that the nitrate-producing district of Tarapacá should remain a Chilean possession unconditionally and perpetually, while the territories of Tacna and Arica were to be subject to the Chilean laws and authorities for ten years, at the end of which it would be decided by a plebiscite whether they should remain in the possession of Chile or revert to Peru, the country to which the inhabitants chose to belong having to pay \$10,000,000 in silver to the other. A third clause of the treaty provided that the manner of taking the plebiscite and the terms of payment of the indemnity should be settled by negotiations, the settlement thus arrived at to be an integral part of the treaty. No treaty was concluded with Bolivia, but only a truce, because the Bolivian Government could not be brought to assent to any permanent arrangement except such a one as would give Bolivia ample access to the sea. In the compact of truce Atacama is not mentioned. The only coast district recognized as ever having been Bolivian is the narrow strip extending from the Peruvian frontier to a point a few miles south of Cobija. The free entry of Chilean products into Bolivia was one of the terms of the truce, the object of both parties being to prepare the way for a stable treaty of peace and amity. The

plebiscite has not yet been held in Tacna and Arica, nor has a definitive treaty been concluded with Bolivia. Plenipotentiaries have been appointed several times to discuss the terms of a settlement, and all their efforts have led to no result. At first the Chilean Government was disposed to favor Bolivia at the expense of Chile, suggesting as the basis of a definitive treaty that the port of Arica go to Bolivia. In case Chile could not dispose of Arica the cession of some other port was discussed, and Bolivia showed an unwillingness to accept any alternative port that Chile was willing to cede. The discussion was so protracted and hopeless that the Bolivians began to consider an alliance with the Argentine Republic and another appeal to arms for the purpose of getting the seaport that they needed. Chile therefore broke off negotiations and began to discuss with Peru the conditions under which the plebiscite should be taken in Tacna and Arica. It was proposed to submit these conditions to arbitration. These negotiations, which seemed likely to be as futile as the prior ones with Bolivia, were interrupted by a civil war that broke out in Peru. The fund that Peru had accumulated for the purpose of paying the indemnity to Chile in the event of the provinces returning to Peru, which seemed to be the most likely outcome of the plebiscite, was expended in the war, and when peace returned Peru was for that reason in no hurry to resume negotiations. Soon, however, the Peruvian Government did press for the fulfilment of the treaty of Ancon, and the Chileans have betrayed the greatest reluctance to carry out the terms of the treaty. The arbitration proposals to which the Chilean Government had consented were rejected by the Chilean Congress. The idea was promulgated that the retention of Tacna and Arica was necessary in order to give Chile a scientific and strategic frontier. The same reason militates against the concession of a seaport to Bolivia. The adoption of this policy by the Chilean Government was followed by a great extension of the administrative organization in the occupied provinces, and the announcement of schemes of public works that would so strengthen the influence of Chile as to turn in her favor the plebiscite when it takes place at some indefinite future time. When Bolivia urged the renewal of negotiations for a definitive treaty based on concession of a seaport the Chilean Minister of Foreign Affairs replied bluntly that Bolivia must abandon all expectation of a concession of territory on the seacoast on the part of Chile. The protocol arranged by the plenipotentiaries Billinghurst and Latorre in 1898, providing for the manner of taking the plebiscite in Tacna and Arica, passed the Chilean Senate after having been approved by both houses of the Peruvian Congress, and was rejected by the Chilean House of Deputies on Jan. 16, 1901. The attitude of Chile was universally disapproved in South America outside of the Chilean nation. Peru and Bolivia asked the good offices of the United States to induce Chile to submit differences to arbitration and carry out the terms of the treaty of Ancon. The principle of *beati possidentes*, the idea that might makes right, seemed to Spanish-Americans to have captivated all parties in Chile. This was regarded as deplorable because it marred the harmony of the impending Pan-American Congress. The Congress of 1890 discussed arbitration for the settlement of all disputes between American republics, but the subject was not yet ripe. Since the Venezuela arbitration the idea has gained ground until nearly all the republics in the two Americas are willing to consent to this pacific means of ad-

justing differences among themselves. It was the main question to be considered at the Pan-American Congress appointed to meet in the city of Mexico in October. A tentative program to guide the action of the Congress, drafted by the Bureau of American Republics, at Washington, was officially adopted by the Government of Mexico, which submitted it to each government for approval or suggestions. Chile suggested that, if any government objected to the discussion of any question that was presented before the Congress, that subject should not be considered. Secretary Hay pointed out that this would bring all the work of the Congress to naught. Chile then proposed to the Mexican Government to exclude all pending questions from the discussion on arbitration, and to consider an arbitration agreement that will only apply to future questions that may arise. In a note to Washington Chile asked for a definition of the limits within which the subject of arbitration was to be discussed. This communication was considered at a meeting of the Executive Committee of the Bureau of American Republics. The Minister of Costa Rica, presenting the Chilean view, moved that the action of the Congress on the subject of arbitration be prospective and not retrospective. The committee agreed to this at the time, but afterward took up the matter again at the request of the Minister of Bolivia, who objected to limiting the deliberations of the Congress by a prearranged program and thought that the Congress itself ought to be permitted to define the limits of its discussions. Acting Secretary of State Hill offered a motion declaring that the limitations of the program could only be exceeded by the unanimous vote of the Congress, which would allow Chile to prevent the discussion on arbitration from going beyond the limitations of the program. The Colombian minister proposed, on the contrary, to have the discussion on arbitration entirely unrestricted, leaving full liberty to members of the Congress to initiate the consideration of any subject not specified in the program. The proposal of Mr. Hill was approved by the ministers of Costa Rica and Ecuador, while the ministers of Bolivia and Colombia voted in the negative. The Assistant-Secretary of State refrained from voting, leaving the decision of the committee undetermined until the Spanish-American members could arrive at an understanding, which they failed to do, although they met several times to consider the matter. The position of the United States in this controversy was a delicate one on account of the overweening jealousy of the power of this republic entertained in all Spanish-American countries and fostered by intriguing Europeans. When the United States Government, like the Government of Mexico, intimated a willingness to limit the discussion on arbitration in order to avert the threatened abstention of Chile and promote an agreement on arbitration, even if applicable only to future quarrels, the suspicion arose in South America that the United States favored the side of Chile in the disputes with Peru and Bolivia. If the United States voted for unrestricted discussion the Chileans would consider it a mark of disapproval and animosity. The governments of the Argentine Republic, Brazil, Paraguay, and Uruguay, as well as the Peruvian and Bolivian governments, were unwilling to participate in the Congress unless arbitration could be debated without restrictions. The Chilean minister at Washington on July 18 intimated to Secretary Hay that Chile might not attend the Congress unless guarantees were given that disagree-

able questions would not be allowed to come up for discussion. The Argentine representative in Mexico notified the Mexican Secretary of State that his Government would not be represented unless free discussion were allowed on all pending and future arbitration cases. Bolivia, Brazil, Colombia, Paraguay, Peru, and Uruguay took the same view, and all entered into an agreement with each other that if debate should be restricted they would withdraw their representatives in sign of protest. The Argentine Government advanced the opinion that any other course would signify acquiescence in the Chilean ideas of conquest. The Argentine Republic and Chile entered into a mutual agreement not to purchase war material pending the award of the boundary arbitration between themselves, but the Argentine Minister of Foreign Affairs, taking credit for the initiation of an international South American policy that would tend to the maintenance of peace, that of unlimited arbitration, for which the adherence of Ecuador was sought, stated that the Argentine Republic would not engage to remain neutral unless existing treaties were respected, and would not countenance conquest of territory. The Mexican Government announced officially that no alteration had been made in the original program of the Pan-American Congress, and that free discussion would be allowed on arbitration in all cases, present and future.

CHINA, an empire in eastern Asia. The Government, as laid down in the regulations of the Tsing dynasty, is based on the government of the family, and in theory the Emperor exercises supreme paternal authority. The principles and system of government were taken over by the Manchu conquerors, who founded the Tsing dynasty in 1644, from the Ming dynasty, and have been handed down since the age of Confucius. All acts of government are regulated as far as possible by precedents running back thousands of years. Imperial affairs are under the direct control of the Cabinet, called Neiko, consisting of 2 Manchus and 2 Chinese, advised by 2 members of the Hanlin College, whose duty it is to see that all edicts and proclamations conform in style and substance with the dynastic regulations and Confucian precepts. Important questions are decided by the Chun-Chi-Chu, the Grand Council, composed of 5 or 6 of the highest officers of state, both Manchus and Chinese, who have control over the Manchu army, and, unless the Emperor is a strong and resolute ruler, wield the real authority. Decrees and orders are issued by this council in the name of the Emperor to the executive boards in Peking and to the provincial authorities. The boards of administration are provided over each by a Manchu and a Chinese. One board, called the Civil Office, supervises the conduct and administration of the officials, confers titles, and grants rewards and precedence for meritorious conduct; another, the Board of Revenue, manages the finances; the third, the Board of Rites, enforces the laws relating to the ceremonies of the court and all public functions ordered by the Emperor, and regulates the rites called for by an eclipse or other national calamity; the fourth, the War Board, has charge of military affairs and directs the movements of troops; the fifth is the Board of Public Works; the sixth, the Board of Punishments, is the high court of criminal jurisdiction which tries and judges official delinquencies. A seventh board, the Admiralty Office, created in 1885, sits at Tientsin and directs naval affairs. The Board of Censors, composed of 40 to 50 members, also under the dual presidency of a Manchu and a Chinese, is independent of the Gov-

ernment, and its members have the duty of watching over all branches of the administration and the right to present memorials to the Emperor regarding any public need or evil or any relapse from the ancient standards. Their function is to keep the Emperor informed of all that goes on in any part of his dominions that is worthy of his notice, and in particular to keep an eye on malfeasance or oppression on the part of officials. The Tsung-li-Yamen, or Foreign Office, since 1861 has conducted all business with Western nations and with institutions directed by foreigners, such as the Maritime Customs and the Pekin University.

The Emperor is Tung-Chih, reigning under the style of Kwangsu, born Aug. 2, 1872, son of Prince Chun, the seventh son of the Emperor Taokwang. He was chosen by the imperial family to succeed his cousin, the Emperor Tung-Chih, who died without naming a successor in 1875, and until March 4, 1889, his aunt, the Empress-Dowager Tsu-Hsi, born Nov. 17, 1834, acted as regent, as she had done previously during the long minority of his predecessor, who was her son. On Sept. 22, 1898, in consequence of the Emperor's action in decreeing radical reforms, he was sequestered, and the Empress Dowager resumed the active direction of affairs. During the retirement of the Emperor, who was announced to be very ill, Pu-Chin, son of Tsai-Yi, son of Yit-Sung, fifth son of the Emperor Taokwang, was proclaimed the adoptive son of the late Emperor Tung-Chih and the heir to the throne. This proclamation was issued on Jan. 24, 1900. There are as many as 6,000 recognized princes of the royal blood.

Area and Population.—The official estimates of the area in square miles and of the population of the provinces of China proper are given in the following table:

PROVINCES.	Area.	Population.
Pechili.....	58,949	17,937,000
Shantung.....	53,762	36,247,835
Shansi.....	56,268	12,211,453
Honan.....	66,913	22,115,827
Kiangsu.....	44,500	20,905,171
Nganwei.....	48,461	20,596,288
Kiangsi.....	72,176	24,534,118
Chekiang.....	39,150	11,588,692
Fukien.....	38,500	22,190,556
Hupeh.....	70,450	34,244,685
Hunan.....	74,820	21,002,604
Shensi.....	67,400	8,432,193
Kansu.....	125,450	9,285,377
Szechuen.....	166,800	67,712,897
Kwangtung.....	79,456	29,706,249
Kwangsi.....	78,250	5,151,327
Kweichau.....	64,554	7,669,181
Yunnan.....	107,969	11,721,576
Total.....	1,313,328	383,253,029

Manchuria, with an area of 362,310 square miles, has a population estimated at 7,500,000; that of Mongolia, with an area of 1,288,000 square miles, is estimated at 2,000,000; Tibet is estimated to have an area of 651,500 square miles and about 6,000,000 inhabitants; Jungaria is 147,950 square miles in extent and has about 600,000 inhabitants; and Chinese Turkestan has an area of 431,800 square miles and 580,000 inhabitants. The area of the Chinese Empire is 4,218,401 square miles, and the estimated population 402,680,000. The ports open by treaty for Europeans to reside in are Canton, with about 2,500,000 inhabitants; Tientsin, with 1,000,000; Hankau, with 850,000; Hangchau, with 700,000; Fuchau, with 650,000; Shanghai, with 615,300; Suchau, with 500,000; Chungking, with 300,000; Ningpo, with 255,000; Chinkiang, with 140,000; and Amoy, Niuchuang, Wuhu, Wenchau, Shasi, Kiukiang, Wuchau,

Kiungchau, Chifu, Swatau, Ichang, Pakhoi, Szemao, Mengtsz, Lungchau, Samshui, Funning, Kongmun, Kaulun, Lappa, and Yatung. The number of foreigners residing in the treaty ports in 1899 was 17,193, of whom 5,562 were English, 2,440 Japanese, 2,335 Americans, 1,621 Russians, 1,423 Portuguese, 1,183 French, 1,134 Germans, 448 Spanish, 244 Swedes and Norwegians, 234 Belgians, 178 Danes, 124 Italians, 106 Dutch, 90 Austrians, 42 Koreans, and 29 others. There were 401 British commercial houses, 195 Japanese, 115 German, 76 French, 70 American, 19 Russian, and 10 Portuguese; the Italians, Dutch, Belgians, and Spaniards had each 9, the Austrians 5, the Danes 4, and Swedes and Norwegians 2.

The Army.—The Army of the Eight Banners is composed of descendants of the Manchus, Mongols, and Chinese who put an end to the Ming dynasty in the seventeenth century and placed the reigning dynasty on the throne. These troops are usually cantoned in 25 towns of the province of Pechili in the vicinity of the capital and distributed in garrisons in certain cities of the provinces and in Mongolia and Turkestan. The Army of the Green Flag, or provincial troops, are commanded by the Governor-General and governors. Their total strength is supposed to be between 400,000 and 500,000. Other troops, called irregular, are recruited and disbanded as occasion requires.

The Navy.—The naval forces of China are divided into the Peiyang, or northern squadron, belonging in the Gulf of Pechili, and the entirely independent southern squadron, called Nanyang, kept at Fuchau and Canton. The Peiyang consists at present of 5 small protected cruisers, the Hai-Chi, Hai-Tien, Hai-Yung, Hai-Shu, and Hai-Chen; 2 torpedo gunboats, the Fei-Ying and Fei-Ting; 1 unarmored cruiser, the Fu-Tsing; and 4 destroyers. The Nanyang comprises 2 small protected cruisers, the Yang-Pao and Ye-Sing; 7 unarmored cruisers, the Hsi-Ying, Honan-Tai, Kai-Chi, King-Ching, Nan-Shin, Nan-Yin, and Pao-Min; and 2 torpedo-cruisers, the Kuang-Ting and Kien-Wei. There are besides 5 gunboats, built before 1885, and 26 torpedo-boats.

Commerce and Production.—The value of imports in 1896 was reported by the Maritime Customs to be 202,589,994 Haikwan taels; in 1897, 202,828,625 taels; in 1898, 209,579,334 taels. The value of exports in 1896, 131,081,421 taels; in 1897, 163,501,358 taels; in 1898, 159,037,149 taels; in 1899, 195,784,832 taels. These figures do not indicate the entire value of the foreign commerce, because a great deal of merchandise is transported in native vessels that are beyond the control of the Maritime Customs. The imports of cotton yarn were valued at 54,941,000 taels; of cotton cloth, 48,524,000 taels; of opium, 35,793,000 taels; of rice, 17,813,000 taels; of petroleum, 13,002,000 taels; of sugar, 10,226,000 taels; of coal, 6,397,000 taels; of iron goods, 4,021,000 taels; of fish, 3,849,000 taels; of woolen cloth, 3,680,000 taels; of raw cotton, 3,476,000 taels; of flour, 3,189,000 taels; of matches, 2,713,000 taels. The exports of raw silk were valued at 71,366,000 taels; of tea, 31,469,000 taels; of silk fabrics, 10,527,000 taels; of beans and bean cake, 9,418,000 taels; of skins, 7,720,000 taels; of wool, 4,141,000 taels; of matting, 3,652,000 taels; of sugar, 3,373,000 taels; of cotton, 2,980,000 taels; of straw braid, 2,882,000 taels; of tobacco, 2,310,000 taels; of clothing and shoes, 2,224,000 taels; of provisions and pulse, 2,184,000 taels; of paper, 2,158,000 taels; of oil, 2,046,000 taels; of porcelain and pottery, 1,893,000 taels. The values of the imports and exports in 1899 were in Haikwan taels as follow:

TREATY PORTS.	Imports.	Exports.
Shanghai.....	153,808,000	90,937,000
Kaulun.....	24,501,000	26,221,000
Canton.....	13,862,000	23,900,000
Tientsin.....	14,255,000	10,872,000
Swatow.....	13,315,000	4,525,000
Amoy.....	13,602,000	1,377,000
Niuchuang.....	5,279,000	8,693,000
Fuchau.....	5,986,000	5,869,000
Lappa.....	3,655,000	6,173,000
Chifu.....	6,540,000	2,075,000
Hangchau.....	440,000	6,155,000
Wuchau.....	4,076,000	1,846,000
Mongtze.....	3,374,000	1,883,000
Kibingchau.....	2,510,000	2,142,000
Pakhoi.....	2,443,000	1,650,000
Other ports.....	6,110,000	1,458,000
Total.....	273,756,000	195,785,000

The reexports from the various ports, amounting to 9,008,000 taels, are not included in the imports as given in the above table. The values in taels of the imports from and exports to the various foreign countries and ports in 1899 were as follow:

COUNTRIES.	Imports.	Exports.
Hong-Kong.....	118,096,000	71,846,000
Great Britain.....	40,161,000	13,963,000
Japan.....	35,896,000	17,251,000
United States.....	22,289,000	21,686,000
East India.....	31,911,000	1,731,000
Siberia.....	28,000	13,214,000
Macao.....	3,409,000	5,824,000
Odessa.....	3,239,000	5,343,000
Singapore.....	3,646,000	2,232,000
British America.....	1,209,000	260,000
Rest of Europe.....	10,172,000	36,764,000
Other countries.....	3,445,000	5,671,000
Total.....	273,756,000	195,785,000

The quantity of tea exported in 1899 was 1,630,795 piculs, of which 869,873 piculs went to Russia, 236,021 piculs to Great Britain, 218,535 piculs to the United States, 117,737 piculs to Hong-Kong, and 45,607 piculs to Australia. The development of Chinese commerce in the last few years shows a great increase of American trade, particularly in flannels, sheetings, and jeans. Russian cottons have also come into competition with Manchester goods. Russian kerosene has driven the American oil out of the market, but the loss of this trade is offset by the imports of American canned foods, cigarettes, and a variety of minor products.

Navigation.—The number of vessels entered and cleared at the treaty ports during 1899 was 65,418, of 39,268,330 tons, of which 12,698, of 1,473,890 tons, were sailing vessels, and 52,720, of 37,794,440 tons, were steamers. Of the total number, 25,350, of 23,338,230 tons, were British; 31,009, of 9,349,247 tons, were Chinese; 3,712, of 2,839,741 tons, were Japanese; 2,078, of 1,854,246 tons, were German; 822, of 613,191 tons, were French; and 716, of 310,107 tons, were American.

Railroads and Telegraphs.—The railroads already built in 1900 had a total length of 292 miles. The railroads planned and authorized would make 4,036 miles more.

There were 14,285 miles of telegraph lines completed in 1900. Along the coast the Great Northern and Eastern Extension Telegraph Companies have submarine cables. The central administration of the Chinese Government telegraphs is at Shanghai.

Peace Negotiations.—At the beginning of 1901 the allied troops, under the command of the German Field-Marshal Count von Waldersee, were in occupation of Peking and other places in the province of Pechili, and were guarding the railroads. The conditions on which the powers were willing to evacuate the capital city and province

had been given to the Chinese plenipotentiaries in a joint note. All the powers had repeatedly pledged themselves that they would maintain undiminished the territorial integrity of China and the principle of equal treatment to foreigners embodied in existing treaties. Germany and Great Britain had entered into a separate agreement to keep the coasts and rivers free to the commerce of all nations, so far as they exercised influence, and not to make use of the present complications to seek territorial advantages, provided no other power sought to turn the situation to its advantage; contrariwise they would agree between themselves as to what steps they would take to protect their own interests. The other powers had joined in the first part of this agreement, while rejecting the proviso, except Japan, which adopted it integrally as one of the signers. Russia had made an independent declaration that she would not infringe on the independence or integrity of China. The United States and Russia endeavored to induce other powers to abate their demands for money indemnities from China and for the execution of high Chinese officials implicated in the anti-foreign movement. The Chinese court was willing to accept the conditions imposed by the powers so as to deliver Pechili from the military operations that were carried on under the orders of Count von Waldersee, who had arrived with a large German force after the allied troops had broken down the resistance of the Chinese army, which had evacuated Pechili, the main force accompanying the court in its flight to the province of Shensi. The commander-in-chief, whose field staff was composed of German officers only, sent out punitive columns which scoured the province of Pechili. The German troops, who had the spirit of retaliation impressed upon them when they set out and the example of looting after their arrival, and who were ignorant of the people and of what had been done by those who were on the spot before them, began by harassing the neighborhood of Peking, looting wherever they went and shooting innocent villagers on the supposition that they were Boxers. Soon they were sent out on expeditions and allowed to live on the country. They continued to punish the innocent with the guilty, and were said to engage in systematic pillage, to levy fines in quiet villages in order to reduce the cost of feeding themselves, and even to kill wantonly and to maltreat women. They outraged without compunction the cherished beliefs of the people, destroyed the authority of native officials, collected indemnities from towns that were either innocent or had already made atonement for their crimes, drove out the regularly constituted officials who were acting in harmony with the Europeans, set free Boxers who were held by the Chinese for punishment, sacked friendly towns, and killed the native police and harmless villagers. Chinese officials, appointed by Li-Hung-Chang as Viceroy of Pechili, were already administering the province under foreign supervision. The allied commanders in Peking drew up a code of laws to be administered by Chinese judges. Persons who had any part in the Boxer rebellion or had committed injury to the life or property of any Chinaman or foreigner during the uprising, or who attacked the foreign police or resisted arrest, were punishable with death, as well as persons guilty of murder, robbery, burglary, counterfeiting, and other ordinary crimes.

The United States proposed that the negotiations concerning the indemnities to be paid by the Chinese Government and the revision of the commercial treaties should be withdrawn from the deliberations of the foreign ministers in Peking

and be submitted to another tribunal. Some of the powers expressed dissent and others hesitated to give a definite reply. For this reason the proposal was withdrawn, and a despatch was sent urging that negotiations be expedited. The Yang-Tse Viceroy, who had saved central and southern China from being carried away by the antifeign movement and who had braved the imperial displeasure in their efforts to bring the deluded court to reason, objected strongly to some of the terms demanded by the powers as destructive of the independence of China. Their protest, intended probably to influence the powers rather than the court, had no effect. On Jan. 13 the Chinese envoys, Li Hung Chang and Prince Ching, notified the foreign ministers that they had received the imperial sanction to sign the protocols in the form required by the ministers, and on Jan. 14 they signed them. A few days later they sent a note to the ministers inquiring as to the probable date of the withdrawal of the allied troops, stating that the officials marked out for punishment by the ministers had been dealt with and had suffered the severest penalties that the Chinese law prescribes for the crimes they had committed. The ministers replied that the signing of the agreement must be followed by acts showing good faith, and that it would be useless for the Chinese Government to expect the removal of the troops until China had conclusively proved her intentions. The ministers were still discussing the punishments that they would require the Chinese Government to inflict upon the antifeign princes and mandarins. Death was prescribed for Prince Tuan, Gen. Tung-Fuh-Siang, and Duke Lan, and for the high officials Ying-Nien, Chao-Shu-Chiao, and Chih-Hsiu, as well as for Prince Chuang and Yu-Hsien. Men who had the Chinese army at their back and the court in their power were not likely to submit to such a fate. The United States, Japan, and Russia, recognizing the impracticable nature of the demand, opposed the death penalty. The Chinese Government at Singan-Fu proposed to decapitate Yu-Hsien, to order Prince Chuang to commit suicide, to exile Prince Tuan, Duke Lan, and Ying-Nien to the frontiers, and to degrade Chao-Shu-Chiao, Tung-Fuh-Siang, and posthumously Li-Ping-Heng and Kang-Yi. The demand of the ministers that capital punishment should be inflicted on every one of the offending princes, generals, and officials seemed to the Chinese mind illogical, in no way a fulfilment of the paragraph in the note requiring the punishment to fit the crime; for if the severest known penalty were inflicted on the least offenders, there could be no fitting punishment for those whose crimes were graver. A supplementary list of officials to be punished was furnished by the ministers. They agreed to allow the Emperor to commute the death sentence into banishment to Chinese Turkestan in the case of the imperial Princes Tuan and Lan. Tung-Fuh-Siang, the commander-in-chief of the Chinese army, could be dealt with when the Emperor had the power, as was secretly promised, and the others, living and dead, must suffer the disgrace of capital punishment before the powers would believe in the good faith of China. The death sentence was demanded for Chih-Liu and Hsu-Cheng-Yu, who were prisoners in the hands of the Japanese. For the members of the Tsung-Li-Yamen and the other Peking officials, Hsu-Yung-Yi, Hsu-Ching-Cheng, Lien-Yuan, Li-Shan, and Yuan-Chang, who were executed in the summer, posthumous honors were demanded.

The humiliations and privations of exile made the court willing to agree to terms that the Viceroy Liu-Kun-Yi of Nankin, and Chang-Chih-

Tung of Wuchang protested against; still the Empress Dowager would not return to Peking until the European soldiers were withdrawn. The leading members of the Grand Council at Singan-Fu, constituting the Central Government, were the astute Yung-Lu, Lu-Chuan-Lin, believed to be a reactionary, and Wan-Wen-Shao, who was credited with progressive ideas. The court agreed to the punishment demanded for the guilty officials, and issued a bulletin announcing the sentences. The Chinese plenipotentiaries suggested that the Board of Punishment was the proper organ to give effect to the decrees. Edicts were issued complying with the other demands of the joint note. Prince Chun, the Emperor's brother, was commissioned to go to Berlin to express China's regret for the murder of Baron von Ketteler, the German minister. The powers themselves could decide about the legation guards and fortifications, the military posts on the railroad, and the razing of the Taku forts. China had accepted all the conditions of peace imposed by the powers. The amount of the indemnities and the manner of payment alone remained to be determined. The speedy compliance with the twelve demands of the powers was probably hastened by a threatened expedition to Singan-Fu that Count von Waldersee was preparing, which was cancelled after the final submission of the court. The conversion of the court at Singan-Fu to ideas of progress was coincident with the resumption of authority by the young Emperor, with the concurrence of the Empress Dowager.

The military experts who studied the question of defensive works for the legations proposed an international fortress, with walls, moats, siege-works, Maxims, barracks for 2,000 soldiers, and supplies and munitions sufficient to withstand a siege of three months. The area of the legation quarter was vastly extended, enabling the representatives of the powers to seize private property of great value. No Chinese or employees of the Chinese Government should be allowed to live within the diplomatic area. The Italian legation took possession of the Temple of Ancestors, which was sacred to the Emperor's own use, and, in addition to other property, laid claim to the residence and garden of the Director-General of the Imperial Maritime Customs, and the Austrian, French, and German legations insisted on expropriating the rest of the compound from which Sir Robert Hart and his staff assisted effectually in the defense of the legations during the siege. Sir Robert Hart sent a letter of protest to the ministers. The legations of Russia, the United States, and Belgium occupied the sites of other Government offices. The Board of Public Works, the Board of Revenue, and the Board of Ceremonials were taken by the British and the Russians. The American legation was the only one that volunteered to compensate Chinese owners of the ground required for the extension. The legation quarter has an area of nearly one-half of a square mile. The legations began building barracks for the 1,750 soldiers to be permanently quartered within this space. A glacis was built around the entire legation area. The American embrasures commanded the main entrance to the imperial palace, the German the Hatamen gate. The ministers having ignored the plan for a uniform system of defense that the allied generals recommended, the governments worked independently. The ministers avoided conspicuous fortifications lest they provoke hostilities or prevent the court from ever returning to Peking. Against the advice of the military engineers who designed a fortress, they adopted the principle that the works should be

no more than a protection against mob violence. They generally consist of a wall 15 to 20 feet high and 3 or 4 feet thick, with loopholes for rifles and machine guns. In the walls in front of the American and some of the other legations the loopholes were bricked up, so as not to give offense. The Chinese Government made a demand that the yamuns of the Board of Government and the temples should be restored, and held that the foreign governments should compensate private owners for the property they took for their own purposes, and not place this burden on the Chinese treasury in addition to the indemnities. In the end the Chinese authorities were induced to grant the requisite concessions, and to undertake to pay private owners.

The ministers made out lists of provincial officials that deserved death for having instigated or permitted the murders of missionaries and other Europeans during the Boxer uprising. Besides 240 missionaries, 30,000 converts had been murdered by the antifeign fanatics, and to expiate the massacres, officials of various degrees were designated by the ministers for punishment. Of the murdered missionaries, 113 were British, 78 were Americans and Scandinavians aided by American societies, and 49 were Roman Catholics. The British minister was especially anxious to bring to justice the persons responsible for the Chuchau massacre, and obtained the assistance of the Governor of Chekiang, on whose report the Imperial Government eventually decreed the degradation of the ex-Governor and the commander of the troops. The victims at Chuchau were 11 British missionaries, who were murdered in obedience to the imperial edict of July, 1900, ordering the extermination of foreigners. The Russian minister positively refused to be a party to any further demands for decapitations. The Spanish minister agreed with him in the opinion that diplomatists who had endured the siege were not fit judges in such matters. Mr. Rockhill, the United States special commissioner, was instructed by the President to object to further bloodshed. The Japanese Government took the same view. The majority of the ministers insisted on exemplary justice in the localities where the Boxer crimes were committed, and presented a list of 140 officials marked out for punishment, of whom 11 should be doomed to decapitation. The Russian Government took no interest in proceedings relating to the murders of missionaries. The Russian Church, although it is represented by a fine edifice and a staff of ecclesiastics in Peking, has never made proselytes in China. Russia was opposed from the beginning to dictating judicial decrees in China, as the United States and Japan were also, but the representatives of these powers had concurred with the others so far in order not to disturb the concert. The demand for decapitations was afterward cut down to 4 and for other sentences to 91, and in the end the ministers did not insist on the punishment of any local officials beyond those already dealt with in Chuchau. Boxers who were caught in the American quarter of Peking, Gen. Chaffee, under instructions from Washington, invariably handed over to the Board of Punishments to be judged according to Chinese law.

Field-Marshal Count von Waldersee called a conference of the foreign commanders on April 29, to consider the question of the withdrawal of the troops. The ministers were informed that evacuation might begin as soon as they had agreed on the sum to be paid by China in indemnities and China had agreed to its payment. The generals decided to hand over the administration of Peking

gradually to the Chinese, who had already established the various boards of government. This plan was in operation in the Japanese, American, and British quarters, the military exercising only a passive supervision over the departments confided to the Chinese officials.

In the discussion of the indemnity and the mode of its payment serious differences between the Cabinets were disclosed, and the question was taken from the consideration of the ministers to be settled by negotiation between the governments. The claims put forward by some of the powers seemed likely to bankrupt China. Italy demanded for the purpose of rebuilding the legation sixteen times the cost of the one destroyed, and Germany wanted China to pay for the fortifications at Kiaochau. France's claim was swelled in order to provide a liberal recompense for native Christians, and thus strengthen the influence of that power as the protector of all the Catholic missions in China. Russia required to be reimbursed for the cost of her army in Manchuria and for repairs on the Manchurian railroads. Private claims for damages amounted to immense sums, almost every foreigner in China regarding the situation as an opportunity for enriching himself at the expense of the Chinese treasury. The Austrian and Italian governments insisted on indemnities for the families of soldiers who were killed in the defense of the legations and in the march of the relief columns from the sea to Peking. All the governments required repayment of the expenses of the expeditions to China. The United States Government took the view that legitimate damages ended as soon as the legations were rescued and the capital city and province occupied by the allied troops, but obtained no support for this contention, which would exclude the greater part of the German claim, and was a stricture on the useless and mischievous punitive expeditions that Count von Waldersee sanctioned in order to keep his soldiers busy. The ministers appointed the British, French, German, and Japanese representatives a committee to examine into the financial resources of China. They questioned all who were most expert in the matter, and came to vague and inconclusive results. The claims after being sifted amounted to 450,000,000 taels, or £65,000,000. The United States Government endeavored to get the powers to agree first to a lump sum that would be within the resources of China to pay, and to apportion this among themselves according to the expenses and damages they had incurred. The sum of \$200,000,000 was suggested as being sufficient to pay well-founded claims, though perhaps beyond the ability of China to pay. The United States would be content with an eighth of this, and the other seven parts might be divided among the seven powers that had taken an active part in the relief of the legations, excluding the two others. If the powers would cut down the total to \$100,000,000, a sum that China could pay without being seriously crippled, the United States would reduce its claim proportionally with the other powers. The United States was willing to accept in payment bonds of the Chinese Government bearing 3 per cent. interest at par. The claims when first presented amounted to \$85,000,000 for Russia, \$60,000,000 for Germany, \$55,000,000 for France, \$25,000,000 for the United States, \$24,000,000 for Great Britain, \$23,000,000 for Japan, \$6,000,000 for Belgium, and \$30,000,000 for Italy, Austria-Hungary, and Spain, and for every month from April 1 the total increased at the rate of \$10,000,000. The French claim included \$18,000,000 demanded by the Catholic Church on

account of the destruction of mission property. This did not include the sums exacted from local authorities to indemnify native Christians. American Protestant missionaries collected indemnities from local authorities and individuals, and the money thus paid the United States Government proposed to reckon in abatement of its total claim. Local mandarins were willing to make voluntary compensation in order to keep their names out of the black list of guilty officials, and wealthy men and villages would pay to obtain immunity from the visitation of foreign soldiers. The sums exacted, amounting to many millions of taels, and the methods employed to compel payment aroused fresh hatred against the missionaries in the northern and central provinces. Germany increased her claim later to \$70,000,000 on account of the prolonged military occupation. Great Britain was willing to agree to a reduction of the indemnities all round, and Russia and Japan were non-committal. All the other powers rejected the proposal of the United States. Japan made a request to be allowed to increase her claim to cover the depreciation of Japanese bonds issued to defray the cost of the expedition. Other powers came in with increased demands when they saw that their allotments were likely to be disturbed, and Japan thereupon withdrew the request, although it was strongly backed by the United States and regarded with favor by other powers.

The committee of ministers discovered that the total imperial revenues amount to about \$65,000,000 in gold per annum, of which \$14,000,000 are derived from the land tax, \$12,000,000 from the Imperial Maritime Customs, and the rest from the grain tax, salt gabels, likin dues, opium tax, and miscellaneous sources. Foreigners thought that the land tax might be doubled or trebled without producing hardship, the salt tax raised from \$6,000,000 to \$20,000,000, and the total revenue increased to \$150,000,000, while Government expenses could be cut down to \$45,000,000, leaving \$105,000,000 a year with which to pay interest on foreign loans. The committee of foreign ministers found that the maritime customs, amounting to between 28,000,000 and 29,000,000 taels, were practically exhausted, 24,000,000 taels being absorbed in paying interest on the existing external loans, 2,500,000 taels in the maintenance of the staff of foreign employees, 120,000 taels in supporting the university, and 1,300,000 taels in keeping up the Chinese legations abroad. The committee recommended for the service of the new loan an increase in the customs duties to 10 per cent., yielding from 10,500,000 to 18,000,000 taels; a salt tax, yielding from 4,000,000 to 20,000,000 taels; a Peking octroi, yielding 500,000 taels; a commutation of the rice tribute, yielding from 1,000,000 to 8,000,000 taels; the abolition of the Manchu pensions; and the reduction of military expenses. The committee recommended that the indemnity loan be guaranteed by the powers, enabling China to pay the required £65,000,000 by borrowing £70,000,000 at 4 or 4½ per cent., whereas on the strength of her own credit she would have to issue a 5-per-cent. loan of £85,000,000. The members of the committee were as far from being unanimous in recommending the financial scheme as in the estimates of the yield of the proposed taxes, which varied from 21,500,000 to 61,500,000 taels. The land tax and the likin they thought ought not to be touched. If they were divided in opinion the governments were still more so. The proposal to raise the customs tariff to 10 per cent. ad valorem came from Germany, and was supported by the

other powers excepting the United States, Great Britain, and Japan, the only three besides Germany that have important trading interests in China. Such an increase has been contemplated for a long time, but only in connection with the abolition of likin duties and other hindrances to commerce with the interior and the establishment of new treaty ports, throwing the whole of China open to foreign trade, in which case the increased receipts must go to reimburse the local authorities for their loss of revenue. Otherwise the effect would be to build up immense manufacturing interests in China, which, with foreign capital and superintendence, the newest modern machinery, and cheap Chinese labor, would undersell every other manufacturing nation. Russia was much more urgent than Germany in pressing for the increase in the tariff, for the blow to seaborne commerce would be an advantage to Russia by increasing the overland trade with Russian possessions. France would also benefit by the diversion of commerce to her possessions south of China. Sir Robert Hart recommended as new sources of revenue a stamp tax, to produce annually 5,000,000 taels; a tax on native opium, to produce 10,000,000 taels; and a house tax, to produce from 20,000,000 to 80,000,000 taels. These new taxes were intended to supply the deficiencies in the imperial revenues caused by China's increased indebtedness to foreign powers. As security for the indemnity loan the Director-General of Customs, who has been a financial adviser of the Chinese Government for over thirty years, proposed an excise duty on salt, which would produce from 15,000,000 to 20,000,000 taels a year; a customs duty to be paid by Chinese junks, which would yield from 3,000,000 to 5,000,000 taels; an octroi at Peking, if needed, producing 500,000 taels; the abolition of the Manchu stipends, amounting each year to 3,000,000 taels; and the commutation of the grain tribute into money, giving 2,000,000 taels. Sir Robert Hart proposed that the indemnity be paid by annual instalments, each power accepting Chinese bonds for its portion of the total sum. Several powers, however, objected to this method because they wanted their portions immediately, and it was feared by others that individual powers might intervene in China for their aggrandizement if China failed to meet her obligations promptly. Sir Robert Hart thought that the likin and salt duties should be collected by the Maritime Customs Department. The new taxes he suggested in deference to the objection of Great Britain to an immediate increase of the customs tariff to 10 per cent., which in pounds sterling is about the same as 5 per cent. was when the duties were fixed in accordance with the Tientsin treaty; but by doubling the tariff rates and gradually abolishing likin he thought that China would be able to pay the debt without difficulty by reason of her expanding resources. The duties were fixed in 1861 at 5 per cent. ad valorem, but the valuations adopted then and since have converted them into specific duties which are at the present time only 2½ to 3½ per cent. ad valorem. Great Britain and the United States could not object by way of compromise to such increases in the specific duties as would make an effective 5-per-cent. rate. This was the recommendation of the committee of ministers in case a 10-per-cent. tariff was not acceptable, and they proposed to assign further to the payment of the indemnities the native customs and to impose duties on certain articles that have been imported free, such as butter, flour, cheese, foreign clothing, and spirits. The estimates of what these sources would produce varied

from 5,500,000 to 15,000,000 taels. The Russian minister estimated that the native customs would give 3,000,000 taels, and that there was an available balance of 3,500,000 taels in the existing customs revenue, which could be increased by 2,500,000 taels if the import duties were raised to an effective 5-per-cent.; if they were raised further to 10 per cent. there would be an additional 10,000,000 taels, giving a total of 19,000,000 taels to provide for the service of a loan of £70,000,000 at 4 per cent., being 800,000 taels more than would be required.

The ministers notified China on May 7 that the joint indemnity would be 450,000,000 taels, and asked by what methods she proposed to pay it. The Chinese Government promptly agreed to pay the sum demanded, proposing to meet a loan for that amount, conjointly guaranteed by the powers, at 4 per cent. interest, extinguishable in fifty years, by paying 20,000,000 taels annually, of which 10,000,000 taels would be raised by a salt tax, 3,000,000 taels from native customs, and 2,000,000 taels from the *likin*; if need should arise the Manchu pension fund would be appropriated. Great Britain and the United States opposed a joint guarantee, while Russia and the other powers insisted on this and Russia on an increase of customs duties to 10 per cent. The United States Government proposed to submit the whole question of indemnities to the arbitration of The Hague tribunal, but found no support for this solution. The deadlock lasted nearly two months, and was broken at last by a compromise. As finally decided, the amount of the total indemnity was not changed from 450,000,000 taels, equal to \$337,000,000. Each creditor power was to receive the amount of its claim in Chinese bonds bearing 4 per cent. interest from July 1, 1901, to be extinguished in 1940 by a sinking-fund, the first payment to be made in 1904. Payments are to be made in gold at the rate of exchange existing on April 1, 1901. The fiscal resources assigned to the payment of the bonds are the salt gabel, the native customs levied in non-treaty ports, and the maritime customs imposed in treaty ports on foreign goods, the duties being raised to an actual 5-per-cent. *ad valorem* payable in silver, excepting the portions of the maritime customs and of the salt gabel that are already pledged for the payment of other debts. The free list is abolished except in the case of cereals. If the duty of 5 per cent. prove inadequate, the powers will be at liberty to increase it up to 10 per cent. The proposal to pay off the bonds by 1940, instead of 1950, as suggested by the ministers, came from the Chinese Government, which must make a considerable financial sacrifice to become rid of the debt sooner. The annual burden of the national debt is maintained to the last at about 42,000,000 taels, whereas the scheme favored by the ministers would steadily reduce the burden after a few years. The interest and sinking-fund of the indemnity loan amount to 23,000,000 taels per annum. Revenues now assigned to other debts will, when those debts are extinguished, be applied to the indemnity, the principal and interest of which will require first and last the payment of 1,000,000,000 taels. In accordance with one of the demands of the powers the Tsung-li-Yamen was abolished and a Board of Foreign Affairs (in Chinese, *Wai-Wu-Pu*) instituted in its place, presided over by an imperial prince and containing two ministers and two assistants. Wang-Wen-Shao and Chu-Hung-Chi were appointed ministers and Hsi-Hu-Peng and Lien-Fang assistants. The *Wai-Wu-Pu* shall have precedence over all other boards, and the ministers

shall have direct access to the Emperor. Foreign ministers when admitted to audience will be conveyed in imperial chairs to the palace through the central gates, and will be received in the halls where the Emperor is accustomed to entertain imperial princes.

The ministers proposed improvements in Peiho river and a channel for ocean steamers in Shanghai river, and the Chinese representatives accepted this proposition. The consideration of conditions to facilitate commerce and inland navigation, which were under negotiation before the Boxer troubles began and formed one of the leading demands in the note of the powers, was by mutual consent left to be the subject of future negotiations in connection with the increase of foreign customs to 10 per cent. and the concomitant abolition of the *likin*. It was agreed that the new 5-per-cent. tariff, including goods heretofore exempt from duty, should come into force on Oct. 1, 1901, but that goods already in transit at the date of the signature of the protocol should be admitted at the old rates of duty. The average prices of merchandise from 1897 to 1899 were taken as the basis of valuation for the new specific duties, for it was decided that the duties should be specific and not *ad valorem*, so as to prevent frauds. A commission was appointed to conduct commercial negotiations with China, as provided in the protocol, its task being to revise the treaties of commerce and arrange for the opening of new ports to trade. Delay was caused after the question of the indemnity had been settled by the opposition of Great Britain to the negotiations being conducted by an international commission in which Italy, Spain, Austria, and the Netherlands would be represented, their trading interests in China being insignificant, while England has three-fourths of the total Chinese trade. The British proposal was that each power should negotiate a tariff separately, the advantages of which would be secured to the others by a most-favored-nation clause. With the object of preventing the isolated action of any of the powers in connection with the reopening of the Manchurian question or otherwise, the British Government proposed to exact a covenant from China that she would not convert or redeem the indemnity debt, but would pay it in strict accordance with the scheme of amortization extinguishing the debt in 1940. As the British amendments were unacceptable they were withdrawn.

The demand contained in the joint note for the perpetual interdiction of imports of arms and war material into China, and also of the materials for their manufacture, was opposed by the United States and Japan from the beginning as depriving China of an essential element of independence. The Chinese plenipotentiaries pointed out that the Chinese Government would not be able to preserve the internal peace and order for which it was held responsible if prevented from maintaining an armed force. It was finally decided to forbid the importation of arms for two years, the prohibition to be extended, if found necessary, for further successive periods of two years. The Chinese meanwhile had been importing munitions of war in large quantities, and in their own arsenals were turning out magazine rifles and smokeless powder. When the edict was issued forbidding imports of munitions of war for two years it was directed to private merchants, and did not apply, as the ministers had intended it should, to either the imperial or the provincial governments. The edict ordering the punishment of provincial officials was equally nugatory, and some of the persons whom the ministers had proscribed were

An edict suspended for five years examinations in cities where foreigners had been killed or maltreated.

The draft was completed and agreed on by the ministers on Aug. 16, and Chinese commissioners signed this protocol on Sept. 7. It consisted of 12 articles. The first recited that Prince Chun had been appointed on June 9 special ambassador to proceed to Germany to express the regrets of the Chinese Government for the murder of Baron von Ketteler, and had sailed on July 12; and that China had undertaken to erect a memorial arch spanning the street at the place where the murder occurred, and had begun the work on June 25. The second article recited that by the edicts of Feb. 13 and 21 Prince Tuan and Duke Lan were exiled to Turkestan and condemned to perpetual imprisonment; Chuang, Ying-Nien, and Chao-Shu-Chiao ordered to commit suicide; Yu-Hsien, Chi-Hsiu, and Hsu-Cheng-Yu condemned to execution; Yang-Yi, Hsu-Tung, and Li-Ping-Heng to posthumous degradation; while Hsu-Yung-Yi, Li-Shan, Lien-Yuan, Yuan-Chang, and Hsu-Ching-Cheng were rewarded with posthumous honors. By other edicts Tung-Fuh-Siang was cashiered and punishment was inflicted on provincial officials, and it was stated that Chuang committed suicide on Feb. 21, Ying-Nien and Chao-Shu-Chiao on Feb. 24, and Yu-Hsien was executed on Feb. 22, and Chi-Hsiu and Hsi-Cheng-Yu on Feb. 26; and that an edict suspended examinations for five years in places where antiforeign crimes had been committed. In the third article it was stated that by way of honorable reparation for the murder of Sujiyama an edict of June 18 had appointed Na-Tung special envoy to convey the regrets of the Chinese Government to Japan. The fourth article stated that China had already paid the cost of expiatory monuments in foreign cemeteries that had been desecrated. The fifth article stated that an edict had been promulgated forbidding imports of arms and materials used in their manufacture for two years, the time to be extended, if necessary. In the sixth article China's obligation to pay the indemnity was acknowledged, the edict accepting 450,000,000 taels as the amount having been issued on May 29, the payments to be made in gold at the rate of 38. to the tael, payable half-yearly, the debt to be extinguished in thirty-nine years according to the plan of amortization, the balance of the maritime customs, raised to an effective 5-per-cent, and including articles previously on the free list excepting rice, cereals, flour, and precious metals, being assigned as security, also native customs administered in open ports by the Imperial Maritime Customs and the unhypothecated portion of the salt gabel, the conditions on which the increase in the tariff was agreed to being that the duties should be specific, and that the beds of the Whangpoo and Peiho rivers, the approaches to Shanghai and Peking, should be improved with the financial participation of China. The seventh article defined the limits of the legation area, and affirmed the right of the legations to have a defensible quarter reserved for exclusively foreign use, and also the right to maintain legation guards. In the eighth article China agreed to raze the forts at Taku and others forts impeding communications between Peking and the sea. In the ninth article it was stated that China on Jan. 16 had conceded to the powers the right to occupy the points necessary for keeping open communication between Peking and the sea—namely, Huangtsun, Langfang, Yangtsun, Tientsin, Chunliangcheng, Tangku, Lutai, Tongshan, Lanchau, Changli, Chingwantao,

and Shanhaikwan. In the tenth article China promised to post during two years the edict of Feb. 1 prohibiting membership in any antiforeign society on pain of death, the edict enumerating punishments, the edict prohibiting examinations, and the edict of Feb. 1 declaring that the viceroys, governors, and local officials responsible for order will, if guilty, be dismissed and never employed again. By the eleventh article China agreed to negotiate amendments to the commercial treaties; also to contribute 60,000 taels a year toward the conservancy of the Peiho channel and half the cost of the Whangpoo improvement, estimated at 460,000 taels a year for twenty years. The twelfth article stated that the edict of July 24 transformed the Tsung-li-Yamen into the Wai-Wu-Pu, or Board of Foreign Affairs, which has precedence of the six other ministries of state. China having thus complied to the satisfaction of the powers with the conditions of the note of Dec. 22, 1900, which the Emperor accepted in its entirety in his decree of Dec. 27, the powers on their part agreed to terminate the situation created by the disorders of the summer of 1900 and to withdraw the international troops, with the exception of the legation guards, from Peking and evacuate Pechili, with the exception of the points named.

The Emperor's brother, Prince Chun-Tsai-Fong, who was commissioned to convey the Emperor's regret for the murder of the German minister to the Kaiser, did not proceed at once to Berlin after his arrival in Europe, but halted in Switzerland until he could receive instructions from China in regard to the ceremonial which the German Government wished to prescribe. As an act of humiliation suited to the expiatory character of the mission, and still more as a recognition of the equality of the German and Chinese sovereigns, the Chinese prince was asked to kowtow to the Kaiser, or go through the reverential ceremony that Chinamen perform in the presence of their Emperor, consisting in touching the ground three times with the forehead and making nine profound bows. This demand was withdrawn, and it was arranged that the Chinese prince should make three obeisances. Prince Chun was received at the Sans Souci palace, in Potsdam, on Sept. 4, and delivered to Kaiser Wilhelm a letter from the Emperor of China expressing deep regret that Baron von Ketteler had been murdered as the result of the invasion of Peking by the rebellious Boxers and the act of the soldiers in joining the rebellion, rendering it impossible for him to take due protective measures.

Military Operations.—The relief of the legations and the occupation of the Chinese imperial city accomplished the ostensible objects of the military intervention before the arrival of Count von Waldersee, who had been accepted by the intervening powers as commander-in-chief of the international forces after a preliminary correspondence between the German and Russian Emperors. When he arrived with the German expedition of 20,800 men he found 18,500 English and Indian troops under Gen. Sir Alfred Gaselee, the Japanese force of nearly the same strength under Gen. Yamaguiehi, the Americans under Gen. Chaffee's command, the French contingent of 16,000 under Gen. Voyron, the large Russian force under Gen. Linevich, and the small Italian and Austrian detachments. There were divergent views among the different governments as to the military policy to be followed, though they agreed in the opinion that the purpose of the troops was to guard the capital and the surrounding districts and hold them until China accepted the terms that the

powers should impose as the conditions of evacuation. The city was divided into districts after capture, and each national contingent had its quarters in the district given into its charge. At first there was havoc and indiscriminate looting, but after the several commanders took charge of different sections they established patrols which stopped most of the looting by individuals within the city. Systematized looting by command was then begun. The houses of the princes and mandarins who had accompanied the Emperor and Empress Dowager to Singan-Fu were stripped of their valuable contents, as were merchants' warehouses. The imperial palaces were gutted, except those guarded by the Japanese, who alone refrained from plunder. American commanding officers did not countenance looting, however, and the French and the Russians kept their troops partially under control. The British collected the loot and sold it at auction for the benefit of their officers and men.

The American and French governments declined to recognize the necessity for a commander-in-chief after the object of the joint expedition had been already achieved, and their commanders would not take orders from the German field-marshal. The Japanese accepted his authority as a matter of form, with the understanding that it would not be exercised. The Russians withdrew their forces to Manchuria, leaving Gen. Wogack with only enough troops to guard the railroad and garrison the stations in the northeast, with instructions to take no part in hostile operations against the Chinese. Except the Italian troops and the petty Austrian detachment, the English were the only troops besides the German expedition that were placed unreservedly under the command of Count von Waldersee, whose staff was composed only of German officers. For larger operations having a political bearing he called into consultation the commanders of the international forces, who decided whether they would cooperate with their troops, seeking first the advice of their ministers or instructions from their governments if the proposed movement was likely to have political consequences. The international command of Count von Waldersee was by agreement between the cabinets confined to the province of Pechili. By agreement with the Chinese court at Singan-Fu, Chinese troops were kept out of Pechili so that they should not come into collision with the international forces. A formal agreement was made on Jan. 2 between Count von Waldersee and Li-Hung-Chang, who was Viceroy of Pechili, defining the limits of the district to be occupied and kept in order by the allies, outside of which the Chinese engaged to preserve peace and order. The military district to be patrolled by European troops was defined in general orders. The railroads and the military posts outside of Pekin were assigned to different divisions of the international force. The German troops who had come too late to have a share in the fighting and the looting that followed must have occupation, and were therefore sent out on excursions in all directions through the military district. They harried the country, seizing supplies where they could find them, and carrying off whatever valuable loot was left, shot defenseless people, disarmed the police, levied fines on villages and towns which had already expiated the Boxer crimes committed in them, and dismissed the native officials whom the European officers had restored and who were establishing order. These depredations were committed by the orders of the German officers. When the troops, demoralized by such barbarous tactics, forgot dis-

cipline and committed crimes and excesses on their own account, the guilty ones were punished as severely as in the American command, and more severely than French or Russian soldiers who got out of hand. The result of the German policy was to plunge the country into anarchy after peace and order had already been restored. The native police having been disarmed and suppressed, the only persons carrying arms were bands of Boxers and brigands, who easily evaded the foreign troops and pillaged the country people with impunity. Deserters from the European armies increased the number of robbers. The devastation of peaceful districts by the troops added fresh increments to the starving Chinamen, whose only means of livelihood was robbery. In the middle of February Field-Marshal von Waldersee announced his intended great expedition to the borders of Pechili, to Taiyuen-Fu in Shansi or beyond, to Singan-Fu, as was variously given out. The expedition or the threat was intended to impress the Empress Dowager with the necessity of yielding to the demand of the ministers for the punishment of the antiforeign members of the Pekin Government. The commander-in-chief requested the cooperation of the American and French commanders, who asked instructions from their governments. The United States Government telegraphed to Minister Conger, instructing him to protest strongly against further military operations, and communicated with the cabinets in Europe. Nearly all the powers agreed that it was inexpedient to resume military operations while peace negotiations were in progress. The ministers in Pekin, though not responsible for the intended movement, approved of it as a means of pressure. While Marshal von Waldersee continued his preparations the Chinese court yielded to the demand of the ministers. The French commander, Gen. Voyron, as well as the American commander, refused to take part in an expedition into Shansi. The allies failed to organize any uniform system of administration that inspired the confidence of the Chinese. The Japanese and the Americans were the most successful, and the French and the British did best when they relied on the native officials. The Germans by their indiscriminate punitive raids and wholesale requisitions aroused resentment. When the time was approaching for evacuation Field-Marshal von Waldersee planned an expedition through southern Pechili, where brigandage and Boxer crimes were becoming rife, but this he gave up because even the English declined to take part.

Looting and the selling of loot continued in Pekin as long as anything of value could be found. The temples were robbed of their images and decorations, and even of the gilded tiles on their roofs; the palaces of their wood carvings and metallic ornaments. The missionaries, who were among the first to begin looting in Pekin, applying the proceeds to the support of the native Christians, went through the country imposing fines of their own authority on villages where native Christians had been murdered or robbed and churches destroyed. An American missionary named Ament, who obtained money from nearly forty villages for the purpose of compensating the families of Christian converts who had been massacred, was arrested by the French on the charge of extortion. Bronze and porcelain figures of enormous weight were shipped to Europe. Auction sales of Chinese loot were held in London and Paris. A collection of choice objects sent to France for public museums was returned to China by order of M. de Lanessan, Minister of Marine, to be restored to the temples and palaces from which

... were taken. The German military ... away the instruments that were ... to the Chinese Government astronomical observatory centuries ago by Jesuit missionaries. The German Government offered to return them, but the Chinese Government asked the Germans to keep them. The Americans and Japanese guarded the Forbidden City effectually, and the French left the Palace of Ancestors undespilled. Nevertheless pillagers carried off a large part of the treasures preserved in the imperial city, and fire destroyed many of the buildings. In the beginning of March the greater part of the Temple of a Thousand Years in the Summer Palace was burned to the ground. A conflagration that occurred on April 17 in the part of the Winter Palace occupied as the German headquarters cost Gen. von Schwarzhoff, chief of staff, his life when he attempted to save military documents. Count von Waldersee escaped narrowly, and unique art treasures and costly presents for the Kaiser were consumed in the flames, which wiped out an acre of buildings. Another fire, which occurred on June 5, destroyed many buildings in the Forbidden City, among them the Wuying hall, which contained the archives of the dynasty and the imperial library. The cause was at first supposed to be lightning; later it seemed probable that some servant of the court had started the fire in fulfillment of the imperial policy of obliterating the historical precedents and literary standards that were considered the chief obstacle to political progress.

Of more than a score of expeditions undertaken before January, only a third resulted in encounters with Chinese troops or Boxers and a few others in the execution of local ringleaders according to the German reports. The Chinese reported that the troops and ringleaders were in several instances regular police and properly constituted officials and the Boxers peaceful villagers. Boxers and bands of robbers did appear near the main garrisons of Peking, Tientsin, and Paoting-Fu, and became bolder and more numerous, but the troops could not catch them. Count von Waldersee formulated his plan for evacuation before the end of January, but the condition of the river and harbor and the lack of transport rendered it impossible for the troops to embark before April. Besides the permanent legation guards, whose number was fixed at over 2,000, he intended to leave 6,000 troops at Taku and Lutai, in the Tientsin district, and 1,500 at Shanhaikwan, to remain until all the conditions of peace were fulfilled; also to occupy the towns of Hosiwu, Matou, and Tungchau until the evacuation of Pechili. The permanent garrisons at Tientsin and Shanhaikwan were fixed at 2,000 and 1,500 men respectively, and garrisons along the railroad at about 300 men each, placed near enough together to be able to patrol the whole line, the troops at each station to consist of men of one nationality and the command of the whole force to be taken by the different countries in rotation. The American and Russian generals thought that half the number of troops would be sufficient to guard the legations, and that 1,000 or 2,000 stationed at Tientsin, Shanhaikwan, and perhaps two or three other points, were capable of protecting communications with the sea, instead of 6,000 distributed at nine different points. The larger plan of the commander-in-chief was adopted, but the United States furnished no troops except to guard the legation. Russia only a contingent at Shanhaikwan. After the razing of the forts the seaport garrisons were to be reduced. The Austrians decided to have only 200 men for a legation guard, the Italians the same, and the

Americans 150, while the guards of the British, French, Germans, Russians, and Japanese were 300 strong. Including these, the garrisons at Tientsin and Shanhaikwan, 9 posts on the railroad between Peking and Shanhaikwan, and 250 men in small posts on the Peiho river, the permanent international force to be kept in Pechili was expected to number 12,500 men.

Paoting-Fu was held by a French garrison, and in the mountain passes beyond leading into Shansi were the outposts of Gen. Liu's army of Chinese regulars. For months the two forces faced one another without mishap. Gen. Bailloud, who had 3,000 men at Paoting-Fu, desired to attack when Gen. Liu massed 10,000 troops within 12 miles of the French advanced positions, but was restrained by orders from Peking. A massacre of Christians at Chingting-Fu was avenged by the French, who had difficulty in settling the quarrels between Christians and the rest of the population at Paoting-Fu, where the Catholic missionaries were so arrogant and exacting that the military would not uphold them, and left the government of the city to the Chinese officials, confining their own action to the arbitration of disputes. A German reconnaissance was carried beyond Paoting-Fu while the preparations for the advance toward Singan-Fu were in progress. Col. Hoffmeister's column was checked at Kuangchang by imperial Chinese troops, who fought stubbornly, although their losses were about 300 killed, and compelled the Germans to retire. Gen. Yinchang, by order of Li-Hung-Chang, requested Count von Waldersee not to send out expeditions, but to restrain the native Christians and the missionaries from making exorbitant claims, to allow the Chinese troops to remain within 10 miles of the allies for the purpose of keeping off Boxers and robbers, and within the occupied territory to seek the assistance of the Chinese officials in the detection and punishment of the guilty. The field-marshal promised not to send out expeditions unless bands of robbers or an advance of Chinese troops made it necessary, and said he would seek the assistance of Chinese officials. The indemnities to be paid to native Christians he said would be settled in the future by mutual agreement between them and the local officials, or would be referred to the diplomatic representatives. In March the Japanese began to withdraw their forces, gradually turning over the districts they occupied to the Chinese officials, with whom they had already cooperated. The United States Government, in April, withdrew all American troops, except enough to serve as a legation guard. A reported advance of Gen. Liu's troops a mile or two beyond the agreed line offered the Germans an opportunity they eagerly seized for an encounter with the Chinese regulars. In previous skirmishes the Chinese had retired, relying on assurances, coming mostly from Russia and the United States, that if they evaded a conflict the allies would not advance, and the negotiations would reach a peaceful conclusion and Pechili be evacuated on more favorable terms than would be the case if they were drawn into fighting. On the report that the Chinese had passed the bounds in the northwest, Gen. Kettler's brigade marched out in four columns. Col. Hoffmeister's column met the Chinese, who had retired to the Great Wall, on April 23, and drove them into Shansi, capturing several banners and guns. On the same day the column of Major von Mühlenfels, numbering 1,100 men, attacked a strong body, estimated at 2,000, in a bastion commanding the pass into Shansi and fought all day, and the Chinese did not yield, but toward evening began to enclose the Germans, who entrenched

themselves and sent for reinforcements. The Chinese had surrounded their position with rifle-pits, and when they had lost 40 men the Germans feared they could not hold out. In the night the Chinese retired. Col. von Ledebuhr's column had a skirmish with the Chinese at Haishankwan, after which they retired beyond the Great Wall. Col. von Wallmenich encountered them in a strong position, and being joined by the battalion of Major von Müllmann, pursued them to Kukuan, capturing 11 old and 2 quick-firing guns. The French, who marched out to take part in the aggressive movement, but were restrained at the last moment by orders from their Government, agreed to hold Kukuan while Gen. Kettler concentrated his whole force at Paoting-Fu and prepared to march through the mountain passes into Shansi. The advance column had already started to climb the mountains when, as the result of *pourparlers* with the Chinese commissioners and their messages to Singan-Fu, the Chinese court consented to evacuate their advanced positions and retire beyond all question from the neutral zone. Another German expedition was sent into Mongolia in consequence of a report that the Chinese were gathering a great force beyond the Great Wall. The territory occupied by the allied troops did not extend more than half-way to the Great Wall. Still, the rumored massing of a Chinese army under Prince Tuan in Mongolia seemed deserving of investigation, and consequently a cavalry force was sent out under Capt. Magnis to reconnoiter. Four columns, selected from widely separated garrisons, rendezvoused punctually at a village in Mongolia 250 miles from Peking, having run over the whole country as far as the center of Mongolia without finding anything to justify the rumor. One of the parties, consisting of only 18 men, entered Kolgan, and found there a quantity of ammunition in the arsenal. Although it was a Chinese post, Lieut. Kummer decided to destroy this, and by the explosion 12 of his men were killed and all the others wounded except a single man. Placing this one as a sentry before the arsenal gate, the plucky lieutenant, who was severely wounded himself, sent word for the Governor and principal officials to come and assist him in an investigation into the causes of the explosion. The Governor and two others were admitted, and were bound and gagged by the mutilated soldiers; another official was then brought in, and dismissed with the warning that Lieut. Kummer would blow the Governor's brains out at the least hostile move on the part of the populace, after which a wounded soldier rode 60 miles to Chatou for reinforcements.

The renewal of active operations by the Germans was followed by a recrudescence of Boxer troubles in the same part of Pechili. A numerous band raided villages and threatened to massacre Christians and attack German posts south of Paoting-Fu. These Boxers were largely recruited from desperate farming people whose horses and cattle had been seized and houses plundered by the foreign troops. Near the Mongolian frontier and in northern Shansi there was also a revival of the Boxer movement. When evacuation was near, the cooperation of the Chinese regular soldiers was called in, in conjunction with whom the French operated against the Boxers on the western border.

While Gen. Kettler was engaged with the Chinese regulars on the west, the international troops at Shanhaikwan were busy with marauding bands who crossed the Great Wall in the east. Col. Radford, with 800 British, Japanese, and French soldiers, set out to punish a large band that had de-

feated a large force of Sepoys and killed an English officer, Major Browning. The enemy were encountered in force, and were driven back into the mountains, 50 being killed to 9 of the allies. These hungry bands that broke into Pechili from Manchuria were Hongsots and others whom the Russians had driven out. After the frightful massacre committed by the Cossack troops of Gen. Gribski, who, misinterpreting the Czar's order to fling the Chinese across the Amur, had attacked every Chinese village near Blagovestchensk with fire and sword, and driven into the flood 4,800 men, women, and children, and killed twice as many more on invading Manchuria, the Russian Government, upon occupying Manchuria, took pains to regain the good-will of the Chinese by giving them a good government. An immense number of troops were poured into the country. The people were generally peaceful, and the Tartar governors made only a brief and formal attempt to check the invaders, afterward submitting gracefully and cooperating loyally with the Russians for the preservation of order. The Boxers of Manchuria were soon subdued with their help, and after the Chinese generals who made a stand withdrew their garrisons into Pechili, occupation was found for the Cossacks, most of whom were Buddhists and racial relatives of the inhabitants, in clearing the country of the brigands, who were a veritable pest and a serious incubus on the industry of an exceedingly productive province. These Hongsot brigands were originally hired workmen or condemned malefactors who had been sent to dig gold in the mines belonging to the Chinese Government situated in the wild part of northern Manchuria. The miners quickly deserted to dig gold on their own account, and those who came to take their places did the same, until the mountains were filled with a population of strangers too numerous to subsist on the scanty supply of gold, who made laws for themselves and robbed all others, infesting every road in the country, so that high Chinese officials had to pay a price to be allowed to travel unmolested. To sweep these bands out of Manchuria was a long and difficult task, but one that was amply repaid by the gratitude of the people and the benefit to the industry and progress of the province. The expelled brigands on their way southward tore up the Manchurian Railroad, which gave color to the reports of Gen. Gradekoff's expeditions against alleged Boxers, Chinese troops, or the enemy—an enemy formidable enough, but one whose conquest filled the Chinese of Manchuria and elsewhere with gratitude and admiration for the conqueror, whereas the exploits of Count von Waldersee and the other generals, except their similar police services, excited contempt or pity among a people who abhor war and are impressed only by ethical principles and economical forces.

The French followed the Americans in reducing their force, withdrawing 9,000 men in May. Inactivity was fatal to discipline, and friction between the powers was reflected in the attitude of their soldiers, who came near clashing on several occasions. When the American force in Peking was reduced the Germans expected to be placed in charge of the part of the Forbidden City that the Americans were guarding, and vented their spleen when disappointed by paying no attention to the challenge of the American sentries, until one day a German was shot. When Indian soldiers were placed to guard the area at Tientsin that was in dispute between Russia and England, the Russians and French jeered the Sepoys and almost provoked them to turn their weapons on their tormentors. French soldiers off duty came into conflict with

... and there were frequent street ... nationalities. The Germans at ... boats striking against a ... upon a tug flying ... among two men of the Chinese ... after which they imprisoned and flogged the ... When called on for an explanation, Gen. von ... the German commander, alleged that British tugs and lighters were in the habit of deliberately running against the bridge. The Indian and English troops at Tientsin and elsewhere incurred the animosity of all the Continental soldiers, and the American troops had sometimes to share this odium.

Count von Waldersee, with two-thirds of the German force, departed in June, after Gen. Bailland and the French troops had already gone. The Japanese and British forces were gradually withdrawn. The Japanese before leaving their quarters at Peking had instructed a Chinese police force to take their place, and the Chinese Government, on resuming authority, engaged Japanese officials to assist in organizing the new civil administration for the whole city and a Japanese colonel to command the police. Trained Chinese troops from Shantung and Honan were brought in to succeed the allies throughout the province, and cooperated with them in each district before they were withdrawn. Peking was handed over to the Chinese early in July. A new association, called the Lien-Chuang-Hui, or Society of Allied Villages, took the place of the Boxer organization in the west and south, and in consequence the French decided to retain a garrison of 1,000 men at Paoting-Fu until the autumn. A force of 3,000 imperial troops could not, or would not, subdue a body of these new Boxers at Chichau. The ministers, in virtue of the clause in the protocol which holds high officials responsible for the existence of anti-foreign societies, called upon the newly installed Chinese authorities to suppress this society within a short limit of time. The new movement spread into Shantung, where the Governor put it down, while more energetic commanders checked it in Pechili. Officers of the dispersed imperial troops took command of the new Boxer bands, which persecuted cruelly the native Christians, compelled the country people to join the society, and levied on villages for supplies.

The military at Taku and the other fortresses dismantled them and removed war material, but the decision to level their walls was not carried out, because the ministers, yielding to the patriotic objections of the Chinese ministers, omitted this one of the demands of the powers from the protocol.

Peking had been in the possession of the allies a year when the Chinese garrison, 3,000 in number, returned on Sept. 17, when the command of the capital was formally surrendered to Prince Ching. The Americans still retained possession of the south gate and the Japanese of the east gate. No other foreign troops remained in the capital, excepting the legation guards, nor any in Pechili, except the detachments at Shanhaikwan, Tientsin, and other points on the railroad. The evacuation of Peking took place on Sept. 22, and the points along the route were successively evacuated.

The Manchurian Question.—Russian interests in China were so different from those of the commercial nations of the West, the policy of Russia so distinct, her diplomatic methods so much more effective, and her influence so powerful, that the ministers in dealing with the Chinese court through the plenipotentiaries at Peking could not tell to what extent the court was influenced by Russia or bound by secret engagements. By

mobilizing the Siberian and a part of the European troops, Russia made a display of military power immensely greater than the whole army that the allies threw into Pechili. The Russian army occupying Manchuria numbered 175,000 men. In its attitude toward the Chinese dynasty and people, the Russian Government assumed the rôle of protector against European encroachments as well as against internal disturbers. The friendship that had existed for centuries between the Czar and the Son of Heaven obliged the Czar to lend troops for the suppression of a revolt in the Middle Kingdom, and these Russian troops had occupied Peking for the reestablishment of order, thus strengthening the fraternal friendship between the Chinese and Russian rulers. Russian troops occupied Manchuria simply to preserve order, and their task would be to suppress brigandage and protect peaceful trade. The right of Russia to exercise military and political authority in Manchuria was secured by a secret treaty long before the present intervention of the powers. When Manchuria was saved from Japan by the intervention of Russia, with the officious backing of other powers, which merely pretended to the Chinese to have any control in the matter, it was evident that this great and rich country would fall to the share of Russia. It was foreseen before the Japanese war that this would be the political consequence of the building of the Siberian Railroad. When the concession of seaports and the right of way for the railroad were granted Germany and Great Britain seized seaports as compensation, and, by beginning the partition, brought on the Boxer revolt. Great Britain, as well as other powers, recognized Manchuria as a sphere of Russian influence, to compensate for which Germany sought a sphere in Shantung and Great Britain in the Yangtse basin, a region too vast and rich for this claim of preemption to be made good, especially when British enterprise shunned this field, in which Belgian and French capitalists, with Russian political backing, began to build railroads and German and American goods crowded British manufactures out of the market. Germany secured in the Anglo-German agreement a waiver of any exclusive commercial privileges that England might claim in the Yangtse valley, but restricted the agreement to ports and rivers where the parties have influence, and consequently denied afterward that the agreement applied to Manchuria, a Russian sphere in which Germany claims no influence. Russia made use of the military occupation of Manchuria to consolidate her political influence, to introduce Russian administration, and to promote the peaceful annexation of the country. Capital was poured in through the Russo-Chinese Bank, which developed mines and by its discounts quickened the commerce of the province, increasing production and bringing remarkable prosperity at the time when rich districts of Pechili were becoming depopulated and turned into a wilderness. Russian taxes, the survey and registration of lands, Russian money, and the assimilation of the administration to the Russian system were introduced without friction. There was an ample supply of Russian officials who had learned the Chinese, Mongolian, and Manchurian languages in the school at Ourga, in Mongolia. The Russian troops were selected from tribes nearest akin to the Chinese and having the Buddhist religion. Russian colonization was begun by the settlement of 80,000 emigrants from European Russia along the Argun river in central Manchuria. The Chinese inhabitants of Manchuria became so well satisfied with Russian rule that they would not willingly go back to the former

régime. In Mongolia, too, Russian enterprise, hand in hand with Russian political control, was making similar progress.

The Japanese Government was not blind to the inevitable destiny of the northern dominions of the Chinese Empire and understood the protectorate actually exercised by Russia, and was seeking to consolidate its own position in Korea by similar methods. Japan, wishing to gain time, and Great Britain, anxious to hem back the Russians until British interests are more firmly established in central China, supported by the United States, which has had considerable trade in Manchuria, chose to ignore the actual status of the province and consider that it was not even pledged to Russia, when it was really delivered and held, the previous arrangements between the Russian and Chinese governments being secret. English statesmen assumed that the Anglo-German agreement was intended to avert the Russian annexation of Manchuria, but the German Chancellor repudiated the suggestion. Russia, whose annexations in the East are as far as possible gradual and pacific, was quite willing to agree to the fiction, and intended to restore the nominal sovereignty to the Chinese Emperor. An agreement between Gen. Korostovich, representing Admiral Alexeieff, the Russian commander-in-chief, and Tseng, the Tartar general at Mukden, provided for the resumption of the civil administration by the Chinese authorities subject to the control of a Russian resident, and for the organization of Chinese police under the Tartar general, could call on the aid of the Russian military when necessary, but must disband all Chinese soldiery and deliver over all munitions of war to the Russians. The English Government, learning of this secret agreement from newspaper reports, asked at St. Petersburg for explanations. Other versions were given or other agreements unearthed. A second agreement provided for the maintenance of a Chinese army in Manchuria after the completion of the railroad, Russia to be consulted as to its strength; allowed Russia to extend the railroad in the direction of Peking as far as the Great Wall; and restrained China from granting railroad or other concessions or even building railroads, not alone in Manchuria, but in Mongolia, Ili, Kashgaria, Yarkand, and Khotan without the permission of Russia. Count Lamsdorff explained that the first agreement was a temporary arrangement made by the military authorities for the duration of the simultaneous presence of the Russian and Chinese authorities in Manchuria, and that this *modus vivendi* must be followed before evacuation by a permanent agreement with the Chinese Government, not ceding territory or conferring an actual or a virtual protectorate, but giving an effective guarantee against the recurrence of an attack on the Russian frontier or the destruction of the railroad. The Japanese Government took a more strenuous course in opposing the Manchurian agreement than the British or American governments. Japanese naval forces were mobilized and despatched to Korea. The Germans could not understand the attitude of England and the appeal to the Anglo-German agreement of Oct. 16, 1900, as in framing that agreement it was explained by the English as well as the German negotiators that its guarantees could not extend to Manchuria, England having, by a previous understanding with Russia, conceded, even more explicitly than Germany had done, that Manchuria was outside of her political and commercial sphere. The trading rights in Manchuria, as in other parts of China, secured to all the powers by the treaty of Tientsin, Russia

had already repeatedly promised to respect. The position taken by Great Britain resolved itself into the argument that China would impair her ability to pay indemnities by yielding up any part of her sovereignty in Manchuria. Japan appealed to the Anglo-German agreement promising active measures for the preservation of the integrity of the Chinese Empire or anti-Russian measures in its dismemberment. Japan in accepting that agreement stated that she did so as a co-signatory, and the Japanese Prime Minister now explained that the express provisions of the agreement were the ones that Japan adopted, and it did not concern her if other powers interpreted it by a strange code of their own.

The United States Government appealed to the international understanding existing regarding the preservation of the territorial integrity of China, all the powers having assented to this principle as laid down in the American circular note of July 3, 1900. In a memorandum given to the Chinese minister on Feb. 19 and communicated to the powers on March 1, 1901, Secretary Hay stated the opinion that it would be improper, inexpedient, and dangerous for China to make arrangements or to consider any proposition of a private nature involving the surrender of territory or financial obligations by convention with any particular power, at least without the knowledge and approval of all the powers engaged in joint negotiation. In answer to Japanese inquiries Russia declined to discuss with a third power the terms of the agreement pending negotiations, but promised to publish it when concluded, and would consider any representations that Japan might make, as the agreement was not intended to impair China's sovereignty or to injure the interests or rights of other states.

When the second agreement came to the notice of the British Government Lord Lansdowne detected in it the virtual establishment of a protectorate over Chinese Turkestan and Mongolia as well as over Manchuria. Count Lamsdorff said that negotiations were pending, the subject of which could not be disclosed, as such a course would be incompatible with the character of one independent state negotiating with another. Japan and the United States both represented to the Chinese Government through the plenipotentiaries at Peking that it would be inadvisable to sign a separate convention regarding Manchuria while peace negotiations were still proceeding, and both sounded the other powers, all of which took the same view, even France and Germany. England, Germany, Austria, and Italy offered the same counsel to China. Japan notified China that if Russia obtained any territorial or commercial advantages Japan would require equivalent advantages. Even Russia concurred in a memorandum from Washington against secret arrangements with any one power without the agreement of all while negotiations were going on, but assumed that it did not apply to a temporary military arrangement. Other conditions that Russia sought to weave into the agreement were that the appointment of the Tartar general in each of the three provinces of Manchuria should be subject to the approval of Russia, a right that Russia already exercised; that a Russian official should control the police in each province; and that the frontier customs should be under Russian control, and transit for goods imported from Siberia should be free throughout the interior. Although the Russian Government refused to disclose the contents of the draft agreement further than to state that they did not infringe the existing treaty rights of other powers in China, the Chinese let

the powers to their own advantage. The Yangtse viceroys, who had been appointed advisory members of the peace commission, sent a strong remonstrance to the court against signing the treaty, as it would impair Chinese sovereignty in the northern territories, though Russia had agreed to accept a less stringent control over the civil administration in Manchuria and to renounce her pretensions to exclusive rights in Mongolia and Turkestan, and also the cession of Kinchau. A new article was introduced stating that, China having broken her engagement by giving the railroad from Shanhaikwan to Shinminting as security for a foreign loan, Russia shall have the right to construct a branch of the Manchurian Railroad to the boundary of Pechili at the Great Wall. The Imperial Government directed the Chinese ministers in Europe to appeal to the powers to intercede with Russia and induce her to either forego demands which were injurious to China and countries having treaty rights in Manchuria, or to influence Russia to extend the time so as to allow further negotiations, the Russian Government having notified the Chinese court that an answer was expected by April 2. The convention was not signed at that term, the Yangtse viceroys having added to the protests of the powers a declaration that they would not recognize it if signed. China had been informed that Russia would tear up the draft unless it was signed at the date appointed. On April 3 the Russian Government notified the powers that it did not intend to proceed further with the Manchurian agreement, but would await the development of events, though regretting that the intention to bring the occupation to a speedy termination and to submit the arrangements for effecting that end to the ministers at Peking had come to naught. China, in notifying Russia of her inability to sign, said that in the perilous situation which she was passing through it was impossible to grant special privileges to one power when others objected lest she alienate the sympathies of all. The effect of the diplomatic intervention of the powers had, according to the Russian view, the effect of prolonging the occupation and attendant Russification of Manchuria. In the Russian circular note Russia renounced all negotiations, since a special agreement, instead of serving as an open testimony of Russia's friendly sentiments toward China, might involve that neighboring empire in various difficulties.

The Russian minister demanded the resumption of the Manchurian negotiations after the signature of the protocol. The work of railroad construction was pushed rapidly in Manchuria, many thousands of laborers being brought from the south. Chinese emigration into Siberia reached such dimensions that the Russian authorities took measures to stop it as much as possible. The junction of the Port Arthur Railroad with the main Manchurian line was effected in July. Sir Robert Hart appointed Russian officials to collect the maritime customs in Manchuria, who also collected the native customs. The Tartar general, Tseng-Chi, who had been removed after signing the agreement with Admiral Alexeieff, but was reinstated at the demand of Russia, was confirmed in his office for four years. In Turkestan, as well as in Manchuria, and even in Tibet, the prestige and influence of Russia seemed to grow amazingly as the result of the Chinese troubles. Envoys of the Dalai Lama went to visit the Czar in the summer, the mission being represented as a religious one due to the fact that the Czar had some millions of Buddhists among his subjects.

Politico-Commercial Rivalries.—Connected with the Manchurian question were the Anglo-Russian disputes about railroads in north China, which were incidents of a rivalry that began long before the Boxer outbreak. In the railroad convention between England and Russia England promised not to interfere in railroad matters north of the Great Wall. The other sections of the northern railroads, which connect Peking with the sea, built with about £3,000,000 of British capital, and constituting the only British enterprise in China, were regarded as a political rampart against the progress of Russian influence and control into China proper. These railroads were torn up by the Boxers and by the Chinese troops that opposed the advance of the allies to Peking. When Count von Waldersee arrived at Tientsin on Sept. 27, 1900, the first question that confronted him was with regard to the reconstruction and control of the railroads. Gen. Gaselee thought that the British superintendent of the line, Mr. Kinder, could collect Chinese workmen, recover hidden material, and get the line into working order quickly under the control of the British military authorities. The Russians having already occupied the railroads and begun repairs, and the British being not yet in sufficient force even to guard the line, and having to depend on Chinese workmen, which seemed to be out of the question from a military point of view, the field-marshal decided to entrust the section between Tongku and Yangtsun to the Russians, while the one from Yangtsun to Peking would be reconstructed by the Germans assisted by the British and other allied troops. The part running up from Tongku to Shanhaikwan he decided to place also in charge of the Russians. The Luhan line in the interior, in which French bondholders were interested, had already been occupied by French troops. Gen. Gaselee obtained the support of the American and Japanese generals for his contention that civilian management would be more effective. Count von Waldersee was not shaken in his opinion, and on Oct. 18, 1900, issued the order for a strictly military control, giving to the Russians control of the line between Yangtsun and Shanhaikwan, while a German officer, Major Bauer, was appointed to repair and protect the section from Yangtsun and Peking with German, British, and Japanese troops. Complaints about the transfer of the railroad to the Russians and arrangements made to secure material belonging to the Belgian company owning the Peking and Hankow Railroad when presented at Berlin again and again were simply forwarded to Count von Waldersee, to whom military matters had been entrusted. Representations were made subsequently at St. Petersburg also by the British Government. Direct negotiations with the Russian Government were more fruitful, and finally an arrangement was made for the transfer of the line from Shanhaikwan to Yangtsun to Count von Waldersee, to be given by him into the control of the British. The railroad was formally handed over to the Germans on Jan. 15, 1901, and by them transferred to the British on Feb. 21. The extension of the northern railroad from Shanhaikwan to Shinminting and Niuchuang was not restored to the British, but remained in Russian control. Russia offered to buy this part of the line from the Chinese Government. This would secure the English bondholders from loss, but the English Government would not readily sanction this solution, which would be in violation of a covenant not to alienate any part of the line. The concession for a great trunk railroad running through China from Peking to Canton had been

acquired by the Belgian syndicate that had constructed part of the line, the American and other concessionaires having sold their interest.

After the British railroad administration had resumed control of the northern railroad a serious quarrel arose respecting a part of the river front in Tientsin where the railroad officials wanted to build side-tracks. This same piece of land was claimed by Russia as a concession granted by Li-Hung-Chang as Viceroy of Pechili. The Russians, who were in possession and had set up boundary posts, stopped the railroad construction until a superior British force took possession under instructions from Gen. Barrow to carry on the siding by armed force if necessary. Gen. Wogack protested, and both he and the British general stationed troops on the disputed area and appealed to the field-marshal, who said he could only judge the military question, leaving the question of ownership to be decided by the governments concerned. Instructions came from England to maintain the sentries, but not to use force except to repel aggression. Count von Waldersee had the military guards on both sides reduced to a small number, and sent back the troops that the British and Russian commanders had ordered up. The sentry guards were left in their respective stations on the disputed land until the question of right could be determined diplomatically. The railroad company claimed to have a title to the part taken for a siding, and residents of the British concession opposite set up titles to other parcels of the alleged Russian concession. For ten days in March British and Russian sentries faced one another in hostile array. The agreement closing the incident was reached by direct negotiations between the British ambassador in St. Petersburg and the Russian Minister of Foreign Affairs after the sentries on both sides had on March 22 been removed by agreement between the two commanders. The determination of the validity of the rival claims to the land was reserved for future investigation and negotiation. American residents were anxious that the United States should resume the former American concession at Tientsin. The title to this concession was relinquished during the administration of President Cleveland, and the land was incorporated in the British concession with the understanding that should it ever be needed it would be restored. Mr. Conger, after his return to China, applied to the Chinese Government for a new grant which would fix definitely the boundaries of the American concession. Austria-Hungary, which has had no settlement in China hitherto, and a consulate only at Shanghai, obtained an area in Tientsin. Italy has a settlement adjoining that of Austria. Belgium also determined to establish settlements in China. France and Japan extended the limits of their concessions. Germany already possessed sufficient land at Tientsin. At Canton land was selected for a German concession.

Reform Edicts.—The court at Singan-Fu was not only humiliated by its banishment from the capital, but the hardships suffered during its long flight continued after its arrival at the ancient seat of empire, for Shensi and the neighboring province of Shansi were afflicted with one of the severest famines known in the history of China, having lost three successive crops. Two-thirds of the population were without sufficient food, and a large proportion lacked fuel and clothing to keep them from freezing. The domestic animals were sacrificed to allay hunger. Infanticide became common; the poor sold their women and children, and some resorted to cannibalism. The

court ordered large quantities of rice to be distributed. When the minister announced that native Christians were discriminated against, they protested, and in response to their representations an imperial edict was issued on Jan. 29 ordering all relief officials and Chinese soldiers to treat native Christians in exactly the same way as all other Chinese throughout the empire.

An imperial edict was issued on Feb. 6 suspending for five years all official examinations in districts where foreigners were killed, and one forbidding the existence of antiforeign societies, reciting the punishment of guilty persons, and placing on local officials responsibility for the maintenance of order, with the warning that they would be dismissed permanently from the public service if trouble occurred. These edicts complied with conditions laid down in the note from the powers. An imperial decree issued on Jan. 29 attributes the antiforeign outbreak to the old system of government, condemns blind adherence to precedents, and orders the substitution of foreign methods for Chinese errors, calling upon viceroys, governors, officials of the Central Government, and ministers abroad to suggest reforms for the court and Government, local administration, education, military affairs, and finance. The old system of memorializing the Emperor was declared to be useless, and for the future it was forbidden. Corrupt and dishonest officials were declared to be responsible for China's troubles, and it was therefore of paramount importance to employ only good men and to abolish or modify ancient methods and customs. In an edict issued in February the Emperor adopted the principles that Chang-Chih-Tung and other viceroys had advanced in memorials to the throne. The incessant efforts of officials to maintain a fair exterior regardless of realities, their self-interest, and their devotion to precedent, were declared to be the bane of the land. Excessive reverence for literary form had diverted the mind of the nation from substantial progress, and even where Chinamen have imitated Western methods they have copied what is superficial and immaterial, disregarding the fundamental elements in the strength of Western nations, which are truth, justice, and devotion to the common good. This significant edict, while reproaching Kang-Yu-Wei, the founder of the revolutionary reformers, whose projects were characterized as veiled rebellion, condemned the officials and the literati, the system of literary examinations, and the literary essay; declared that military and financial helplessness had resulted from adhering to obsolete methods; and pointed to foreign methods as the only hope of rescuing China from the disasters that had overtaken her. The progressive Yuan-Shi-Kai, who succeeded Yu-Hsien as Governor of Shantung, even lauded missionaries, and publicly invited them back to the province where Chinese pride and exclusiveness had their deepest roots, promising assistance and protection to missionaries of all churches, a promise that he kept faithfully. By an edict published in the beginning of March the Emperor declared that all decrees and reports issued between June 20 and Aug. 14, 1900, were annulled, and directed that they should be expunged from the archives so that no trace of them should be left in history. Some of the viceroys and governors in a memorial suggested that imperial princes and students of rank should visit foreign countries, that the army should be drilled entirely after Western methods, that the colleges and schools should be extended, and that a standard dollar currency should be adopted. Progressive Chinamen, in consultation with

in 1862, established in Peking a school for the purpose of giving a principal in which Chinamen could obtain a literary degree can quickly learn the Chinese language, and through the Chinese translations can learn the sciences of the West, including history, mathematics, philosophy, law, and medicine.

All the viceroys and governors were invited to advise the court as to the reforms that they thought necessary. Chang-Chih-Tung proposed an international commission to investigate missionary methods. The missionaries are known to the Chinese as the scholars who teach Western doctrines. The Catholics have prospered more than the Protestants, knowing the Chinese language and assimilating Buddhist symbolism in their worship. Protestants—by their charitable protection of infants, their medical skill, and, above all, by their instructions in the sciences and practical arts of the West, have won the respect of the intelligent and progressive element, and they are the principal propagators of Western political ideas. The Chinaman who embraces Christianity adopts only that part of the Christian moral doctrines which he finds serviceable and of practical utility. In joining a Christian community he cuts himself loose from Chinese society and enters an illegal secret society, which he will not do unless he obtains compensatory benefits. These consist in financial assistance and in protection. Thus bankrupts, impoverished men, and social outcasts become converts, and thus missionaries find themselves the heads of associations for mutual benefit and defense of an economic and social character, and tend themselves to become practical business men.

By an edict issued on April 23 the Grand Council was abolished and a General Board of State Affairs was constituted in its place, with Prince Ching as its president, and as the other members Li-Hung-Chang, Yung-Lu, Kun-Kang, Wang-Wen-Shao, and Lu-Chuan-Lin, three of the members being Manchus and three Chinese. The viceroys Liu-Kun-Yi and Chang-Chih-Tung, who had already been attached as associate members to the Chinese Peace Commission, were appointed advisory members of this new supreme council, the appointed task of which was to recommend what reforms were needed in China. Their report would be laid before the Empress Dowager by the Emperor, and the changes approved by her would be put into force after the return of the court to Peking. The Empress Dowager canceled the nomination of Prince Tuan's son as heir presumptive of the throne. A series of decrees enjoined the protection of foreigners and of native Christians. The responses to the invitation to superior officials throughout China to send in reform schemes were so numerous and so conflicting that the Emperor appointed a commission to examine the various projects and report upon them for the information of the Empress, who would have the ultimate decision.

In Canton the Viceroy Tao-Mo, with the concurrence of the Tartar general, issued a proclamation abolishing the privileges of the Manchus, declaring that they should henceforth be treated similarly to the Chinese in the Kwang provinces. The policy of maintaining the special privileges of the Manchu colonies in the Chinese cities has been enforced more vigorously in Canton than in other places, and the Tartar braves have been accustomed to terrorize the peaceable inhabitants of the city, while their own quarter, into which the Chinese police were not allowed to penetrate, has been the refuge of the lawless. The new order abolished the special Manchu tribunals, making

the Manchus amenable to the ordinary courts, invested the Chinese police with the same powers in the Manchu quarter as in other parts of the city, and forbade the Manchu soldiers, as Chinese soldiers are forbidden, to carry arms except on duty. The Yangtse viceroys and several others in their memorials suggested the abolition of the Manchu pensions and of all special privileges of Manchus in the capital as well as elsewhere. The progressive Viceroy of Canton took steps to suppress opium-smoking among his subordinates, having memorialized the throne in regard to this vice. He also gave encouragement to the establishment of schools of Western learning. Li-Hung-Chang proposed in a memorial that examinations in Chinese classics should be suspended everywhere for five years, and that after that they should be combined with examinations in the Western branches. When Li-Hung-Chang, in April, asked the court to appoint a time for its return to Peking, the Empress Dowager replied that that would be impossible until the guests of the nation had departed. When negotiations for evacuation were advanced and the departure of the foreign troops was in prospect, the date of Oct. 6 was set for the reentry of the court. In Peking the Chinese officials tried to disguise the ruin caused by the siege and occupation by erecting wooden facsimiles of the temples, pagodas, gates, and palaces that were destroyed. The court removed from Singan-Fu to Kaifung-Fu, in Honan, in October; and did not proceed to Peking at the time set, putting off the date till another year because the Chinese plenipotentiaries had mismanaged the negotiations and allowed too large a foreign force to remain in Peking. An edict issued on May 30 ordered the destruction of all official documents in the archives in order to do away with burdensome precedents, and directed that the official writers of the six boards of government who were familiar with the old forms and precedents should be dismissed, and that the presidents should draw up such regulations for the conduct of future business as would enable them to have immediate knowledge of all transactions. After the documents in all the public departments at Peking were destroyed and the clerks dismissed, the boards of government were at a loss how to proceed without records or precedents. Proclamations were placarded in Peking and other cities declaring that a national crime was committed by China in 1900, and that the punishment inflicted should be a warning against its recurrence. An edict issued in October admonished officials to enforce the reforms decreed, for the destiny of China was involved in these changes, designed to render her independent.

CHRISTIAN ENDEAVOR, SOCIETIES

OF. The twentieth International Convention of the United Societies of Christian Endeavor, held in Cincinnati, Ohio, in July, was very largely attended. The secretary's report showed that there were now 61,427 societies, and called attention to the fact that the figures representing this number were the same as in 1891, but were arranged in different order, for they read then 16,274, while the nearly 1,000,000 members of ten years before had become nearly 4,000,000. It had been expected each year that a falling off in the increase in numbers would begin, but the time for that had not yet come. A net increase of nearly 2,000 new societies had taken place since the International Convention of 1900 in London, with nearly 100,000 added members. Unification of local and district unions had advanced during the year, and interdenominational fellowship had been fostered. "The denominational loyalty of Christian En-

deavorers," the report said, "is seldom challenged, and on the contrary we find it officially and heartily commended in many ecclesiastical courts and assemblies in many denominations." Fifteen countries were mentioned in which national Christian Endeavor unions had been formed, and Christian Endeavor leaflets and constitutions might be found in more than 20 languages, in Indian dialects, and the dialects of India and Africa. A larger number than ever of the societies had adopted some systematic and proportionate plan for giving money to the cause of missions, to their home churches, and to other benevolences. The two-cents-a-week-pledge plan had worked well wherever it had been tried. More than 20,000 members were enrolled in the Tenth Legion, contributing at least one-tenth of their income to religious causes. Eighty-five hundred and twenty-six societies had contributed, as societies, \$200,216 directly to the denominational mission boards, \$247,858 to their home churches, and \$56,387 to other benevolences. There were now 26,000 Comrades of the Quiet Hour, pledged to make it the rule of their life to spend at least fifteen minutes in private devotion at the beginning of the day. One hundred and sixty thousand young people had in the last twelve months joined the church from the ranks of the societies. The number of junior societies was now 16,000, with 483,000 members, and that of intermediate societies 1,285, with 38,500 members. The usual general and sectional meetings were held. Three large auditoriums and as many churches as were required were used for the meetings. On the first day methods were considered, The Twentieth Century Home was the topic of addresses, and reports were made. The subject of Twenty Years of Christian Endeavor was treated in pulpit addresses on Sunday, and evangelistic meetings were also held on that day. On Monday, July 9, 26 denominational rallies were held, and addresses were delivered and five-minute speeches made in the auditoriums. At noon the Christian Endeavorers participated in the noon-day evangelistic work in the tenement and factory districts. Similar exercises were continued on the last day of the meetings.

Twentieth Anniversary.—The twentieth anniversary of the Young People's Society of Christian Endeavor was celebrated Feb. 2, with special services at Portland, Me., where the first society was established in the Williston Church, Feb. 2, 1881. A memorial tablet was erected in this church as a part of the celebration.

The semiannual meeting of the Board of Trustees was held in Portland in connection with the anniversary celebrations, and plans were made for unifying the work in city, district, county, and State unions. It was decided to hold the international conventions, after 1901, biennially, instead of annually, as heretofore, in view of which the trustees recommended to the State unions that they consider the advisability of holding biennial State conventions, alternating with the International Convention, and that special attention be given to the county and district conventions during the year when the State convention is not held. The following minute was adopted: "Since Christian Endeavor has become a world-wide movement it appears to us wise, on this, its twentieth birthday, to make plain the flexibility and adaptability of the organization to the varying needs of churches in all lands. The fundamental principles of the Society of Christian Endeavor are the following: First, personal and avowed devotion to our divine Lord and Saviour Jesus Christ. Second, the covenant obligation as

particularly embodied in the prayer-meeting pledge, to do what Christ would like to have us do. Third, constant religious training for all kinds of Christian service in the prayer-meeting and by various committees. Fourth, loyalty to the local church and denomination with which each society is connected. Fifth, interdenominational spiritual fellowship, through which we hope to fulfil our Lord's prayer for spiritual unity, that they may all be one. Sixth, Christian Endeavor makes no attempt, nor never has attempted, to legislate for the individual conscience, and neither the united society nor any State or local union regulates, controls, or imposes conditions upon any society of Christian Endeavor. These unions are for fellowship, instruction, and inspiration, and not for legislation or for the exercise of control. If any society is in doubt as to methods of organization and service, it should turn for authoritative instruction to the pastor and church with which it is connected. The united society does not insist upon uniform conditions of organization or a particular form of pledge, which shall constitute a Christian Endeavor Society. So long as a society holding the fundamental principles of Christian Endeavor enumerated above is working for Christ and the Church as its church directs, and is making the young people 'more useful in the service of God,' it is in fact a society of Christian Endeavor, and will be heartily welcomed into the fellowship of the movement."

The Rev. Dr. Francis E. Clark, founder of the societies, spoke at the anniversary meeting on Christian Endeavor in the Twentieth Century, and at the quiet-hour services the subjects of The Gains in Twenty Years of Christian Endeavor, The Essentials of Christian Endeavor, A Campaign of Education, Making the Most of Our Forces, Revivals of Spiritual Interest and of Civic Righteousness, and Advance Steps for the New Century, were discussed.

British Societies.—The British National Christian Endeavor Convention met at Sheffield, May 25. The report showed that during the ten months since the World's Convention of 1900, 533 new societies, including 119 junior societies, had been formed.

CHRISTIAN SCIENTISTS. The adherents of Christian Science declare that more than 1,000,000 persons are interested in their faith, and that their journal, Science and Health, has a circulation of 211,000 copies. Three new Scientist churches were dedicated on Easter Sunday, 1901—one in New York, which it was estimated would cost, when completed, \$725,000; one in Chicago, Ill., costing \$120,000; and one in Toledo, Ohio. A movement was quietly set on foot in the autumn of 1901 to raise the whole amount of the cost of the church in New York in advance of its completion, and \$400,000 was secured in four weeks, \$100,000 having been subscribed at one meeting. There are 7 churches in Greater New York and 3 in Chicago. The oldest church of the Scientists is in Boston, Mass., and cost \$250,000. The United States census of 1890 gave the Christian Scientists 8,724 members and 26 pastors or readers (2 to a church). The census of churches for 1900, prepared by Dr. H. K. Carroll, who was chief of the Department of Religious Statistics in the census of 1890, gave them 10,000 ministers, 579 churches, and 90,000 members, membership being understood to include not all adherents, but only persons who have signed the Church tenets. The Christian Scientists have churches or organizations in the larger American cities, Australia, England, and Ger-

many, and followers all over the world. The church at Hyde Park, London, is said to have 300 members, and congregations of five times that number. It is estimated that the Scientist churches in America will accommodate about 400,000 people, and the houses are usually full and often crowded at both of the Sunday services. The church in Boston, Mass., includes large numbers of non-resident members on its rolls, and claims to have had 3,000 additions in 1900.

COLOMBIA, a republic in South America. The Congress, which meets biennially, consists of a Senate of 27 members, 3 from each department, and a House of Representatives containing 66 members, 1 to 50,000 inhabitants. Electors must be able to read and write or must have an income of 500 pesos a year, or real property worth 1,500 pesos. The President and Senators are elected for six years by indirect suffrage, Representatives by direct vote on collective tickets for each department. The President of the republic for the term beginning Aug. 7, 1898, was M. A. Sanclemente. The Vice-President is J. M. Marroquin. The Cabinet was composed in the beginning of 1901 as follows: Minister of the Interior, Gen. G. Quintero Calderon; Minister of Foreign Affairs, Dr. C. Martinez Silva; Minister of Commerce and Communications, Dr. P. A. Molina; Minister of War, Gen. Ospina Camacho, successor to Gen. Prosperon Pinzon; Minister of Public Instruction, Dr. M. Abadia Mendez; Minister of Finance, Dr. E. Restrepo Garcia. The head of the executive power was the Vice-President.

Area and Population.—The republic has an area of 513,938 square miles, and about 4,000,000 inhabitants, including 150,000 tribal Indians.

Finances.—The estimate of revenue for the biennial period 1899–1900 was 29,918,640 pesos in paper, and of expenditure the same. The revenue is mainly derived from customs duties, which were expected to produce 21,453,640 pesos. Heavy duties are collected on exports. The slaughter of cattle and sale of meat are monopolies of the Government. The chief items of expenditure were 4,493,000 pesos for justice, 3,773,500 pesos for debt, 3,731,000 pesos for financial administration, and 2,524,848 pesos for the army, the strength of which was fixed at 1,000 men in 1898. The revenues of the departments, derived mainly from monopolies in tobacco, salt, gambling, etc., were estimated for the two years at 16,986,756 pesos, and the expenditures at 17,346,040 pesos.

The internal debt on June 30, 1899, amounted to 11,359,074 pesos, the consolidated debt being 5,633,716 pesos, on which the annual interest is 353,300 pesos, and the floating debt 5,725,358 pesos, for the redemption of which Congress has set apart a sinking-fund amounting at that date to 1,738,000 pesos. The foreign debt, most of which is held in England, was compromised in 1897 by the issue of £2,700,000 of new bonds bearing 1½ per cent. interest for the first three years, then 2 per cent. for three years, 2½ per cent. for a like period, and finally 3 per cent. The interest was £47,250 in arrears on July 1, 1900. On Dec. 15, 1900, the Government, with the object of improving the fiscal situation, issued a decree providing for the leasing by public tender for fifteen years, instead of five years as limited by law, of the emerald-mines, the revenues from the pearl, coral, sponge, and seaweed fisheries, and the rural properties of the nation except the uncultivated lands. The entire product of the leases was to be devoted to the redemption of the currency. The pearl and coral fisheries in the Pearl Islands, 50 miles south of Panama, have been famous for a century, especially for the remarkable pearls—

white, greenish, leaden gray, and black—brought up by expert divers who work when the water is clear. The pearl shells are not marketed. Formerly those who worked in these waters paid a percentage on their finds, and more recently an annual tax.

Commerce and Production.—Of the total value of exports in 1898, which was \$19,157,788, the United States took \$5,305,879; Great Britain, \$4,816,354; France, \$3,371,760; Germany, \$3,079,886; and Venezuela, \$1,000,738. The exports were valued at \$19,157,788. The imports are metals, hardware, foodstuffs, beverages, cotton goods, illuminating oil, drugs, paper, and linen goods. The exports are coffee, timber, tobacco, vegetable products, animals, hides, minerals, rubber. The United States exported the value of \$2,985,800 in 1899, in which year the imports showed an increase of which 50 per cent. consisted of American cottons, provisions, etc., and 40 per cent. of English importations. The civil war in 1900 caused a falling off in both imports and exports of about 25 per cent. The export duties were fixed on March 1, 1901, at \$3 in currency on 100 pounds of coffee, hides, roll tobacco, and cleaned cotton; \$5 on rubber, manufactured tobacco, tortoise-shell, and tolu-balsam; \$1 on ivorynuts and cottonseed; \$5 a thousand feet on mahogany, cedar, and other woods; \$10 a kilo on bird skins and orchids; \$50 on heron plumes; \$20 a ton on ores; and on gold 20 per cent., on platinum 15 per cent., and on silver 10 per cent. of the value. The paper dollar was worth about 10 cents. Imports of cereals, vegetables, dairy-products, and lard were exempted from duty.

Railroads.—There were 376 miles of railroads completed on Jan. 1, 1901. The Panama Railroad across the isthmus from Colon to Panama, owned by an American company, has a length of 48 miles. A railroad from Puerto Barrio, on the Magdalena river, to Medellin is being built by the Government of the department of Antioquia, and 42 miles have been built to Caracoli by American engineers, leaving 76 miles yet to be built. In the department of Bolivar an American company operates a railroad, 66 miles long, connecting Cartagena with Calamar, on the Magdalena, and one of 28 miles connects Barranquilla with the port of Sabanilla. In Cundinamarca a railroad runs from Bogotá, the national capital, to Facativá, 25 miles; another to the salt-mines of Zipaquirá, 37 miles; a third to Soacho, 7 miles; and one to connect Bogotá with Giradot, on the Magdalena, was completed from the latter point to Juntas de Apulo, 25 miles, and work on the remaining 71 miles was in progress when stopped by the war. These are all national railroads. In Cauca a Government railroad runs from the Pacific port of Buenaventura to San José, 25 miles, and is being continued 61 miles farther to Cali. In Magdalena there is a line from Santa Marta, on the Atlantic coast, to the Sevilla river, 42 miles, which is to be carried 191 miles farther to El Banco, on the Magdalena river. Santander has a railroad, 34 miles long, running from San José de Cucuta to Puerto Villamizar, on the Zulia river, at the frontier of Venezuela. In the department of Tolima an English company built a railroad between Ladora and Honda, 21 miles, to avoid a dangerous stretch of river navigation; and a line was begun between Ibagué and the river port of Giradot, but only 2 miles were built of the total distance of 37 miles.

The Panama Canal.—The original Panama Canal Company, organized by Ferdinand de Lesseps in 1881, expended nearly the whole capital received up to June 30, 1886, which was 772,545,-

412 francs, and attempted in December, 1888, to raise a loan of 600,000,000 francs. Failing in this, the company suspended operations in March, 1889, and went into liquidation. An extension of time for the completion of the work was granted by the Colombian Government in 1894, when a new company was formed which undertook to finish the canal in ten years from that date. The new company started with a capital of 65,000,000 francs, with which it expected to demonstrate that the plan of a ship-canal with locks was quite practicable and commercially profitable, and thus attract sufficient fresh capital to complete the work. In 1900 a further extension of six years was obtained, making the date when the canal is to be completed April, 1910. The main task performed by the new company has been the reduction of the Culebra ridge, because this was looked upon as the chief engineering difficulty. The cutting has been so far advanced as to show that this obstacle can be overcome. About 3,500 men have been employed for five years on this part of the canal, and in 1901 the company had funds remaining to carry on the work for one year more. The cost of completing the canal was estimated in 1899 at 512,000,000 francs. The total length of the route is 46 miles. The prospect of raising capital in France was so slim that the directors of the company began negotiations with the United States Government for the sale of the concession and the unfinished work. They set a price high enough to reimburse the original shareholders, or as an alternative proposed that the French company should be a partner in the canal with the United States Government. The French engineers estimated in 1901 that the canal could be completed with an additional expenditure of not more than 250,000,000 francs. A commission of engineers which examined the two routes for the United States pronounced the Panama and the Nicaragua projects both to be feasible. A new effort to raise a capital of 500,000,000 francs in France met with no response. The Colombian Government studied a scheme for completing the canal by its own means, employing convicts sentenced to long terms to carry on the excavations. The average number of such prisoners is 1,000. The legality of the last extension conceded to the new Panama company was disputed, and in case the courts should decide it to be invalid the Colombian Government considered the alternate plan of offering the concession to the United States Government with absolute control and the perpetual lease of such adjacent territory as may be necessary. Negotiations between the new French company and the United States Government were still pending. The American engineers estimated the value of the useful work done by the French companies to be not over \$43,000,000, less than a fourth of the capital that had been spent. The American experts, while approving in general the plans of the French engineers, regarded the Culebra dam, designed to impound the waters in the rainy season and store them for feeding the canal in the dry season, as unsafe unless built up from the solid rock instead of from a bed of clay. They found by boring that underneath this bed of clay, between it and the rock, there was a thick stratum of sand.

Civil War.—The revolutionary invaders having been driven out of the country, and the insurgents dispersed before the opening of the year 1901, the Government officially declared peace throughout the territories of the republic, and decreed that the Magdalena war flotilla should be employed to carry import and export cargoes. Shipments of gold from the mines of Antioquia

and Tolima, and also of coffee, were made in conformity with this provision, and consignments for Colombia arrived. In January bodies of insurgents again took the field and attacked the Government troops at Panama and other points, but gained no advantage and soon subsided. The causes of the civil war, which had already lasted a year, go back to the dictatorship of Dr. Núñez, who was elected President in 1880 by the Liberals, the party that had governed the country for twenty years, and in 1885 went over to the Conservatives, and with their support ruled as a dictator till 1895. After abrogating the Constitution, his first step was to repudiate the foreign debt. Unable to borrow more money abroad, and needing funds to satisfy his supporters, he founded a national bank with a monopoly of the banking business, obtaining the capital by discounting with the Panama Railroad Company the payments of \$500,000 a year in gold due to the Government according to the contract made at the time the concession was given. For an advance of \$3,000,000 he released the company from the annual payments for twenty-five years. The national bank issued non-convertible paper money, which was declared to be the legal tender for all debts, and the only lawful money, it being a punishable offense to make contracts stipulating that payments should be made in any other kind of money. The amounts of the earlier emissions were made public, but subsequently currency was secretly issued by the bank of unknown amounts, and the issues have continued until the paper dollar, with which all debts contracted in gold have been wiped out, was worth only a few cents. While the rate of exchange was rising rapidly a *moratorium* was decreed, enabling debtors to postpone payment until the currency became almost worthless. The premium on gold has recently fluctuated between 3,500 and 4,000. President Caro, who succeeded Núñez, continued his arbitrary methods and ruinous financial expedients. The valetudinarian Sanclemente was selected as Caro's successor to be President in name only, and he immediately resigned his functions into the hands of the Vice-President. The complaints which the Liberals make of the rule of the Clerical Conservative party are grave and numerous. The Government has increased tenfold the taxes bearing upon both natives and foreigners. Fruit, gold, silver, cacao, hides, and rubber, which were formerly exported free of duty, must now pay heavy export duties. Absolute monopolies for the manufacture of salt, matches, cigarettes, and liquors have been sold to different companies, also the rights of the pearl fisheries. A concession for running lotteries was sold, although previously this form of gambling was little practised in Colombia. Bull-fights, cockpits, and gambling-houses were licensed. The endowments of orphan asylums and hospitals were appropriated by the Government. Articles destined for the use of the clergy, convents, and religious institutions of all kinds were made free of duty, and it is charged that, taking advantage of this law, the industrial schools managed by monks have been turned into great manufacturing establishments. The court of audit which formerly examined and made public all the accounts of the Government has not been allowed to exercise its functions freely in recent years, and public contracts, which were formerly given to the lowest bidders, have been privately awarded.

By abolishing obligatory lay education and placing all the schools under the control of the clergy the Government has given the greatest offense to the Liberals, who say that the nation is

into ignorance; and they accuse the Conservatives of having made a compact with the Pope, not only to pay annually \$100,000 in gold to the Vatican, but to submit the legislation, jurisprudence, and administration of the country to the direction of the clergy, and to hand over to the Jesuits all instruction of the young. The Minister of War has suppressed all private teaching, and any teacher or professor who is denounced by a priest is removed. The free university has been handed over to the Jesuits, and large subventions are paid to their other colleges. The cemeteries have been given up to the Church, and recalcant Catholics as well as non-Catholics, native or foreign, can not be buried in them or even outside of them in places to which the priests objected. The Conservatives not only abolished civil marriage, but annulled all the marriages that had been contracted civilly or by any religious rite except that of the Catholic Church during twenty years. The Masonic order has been suppressed. The rights of free assemblage and of free speech are suspended, and freedom of the press can only be exercised subject to the penalty of imprisonment or banishment or to the suppression of an offending newspaper, which the minister can order at any time. Opponents of the Government have under military law been imprisoned, exiled, and even slain by soldiers acting under the verbal orders of the President or his subordinate officials. Secret-service agents are supported for the purpose of watching the Liberals, who complain that their private letters are frequently opened in the post-office. The Liberals are opposed not only to the clericalism of the dominant party, but also to the centralized Government that was established by the Constitution of Aug. 4, 1886, which abolished the sovereignty of the nine states, which became departments administered by governors appointed by the President, although still retaining the management of their own finances and certain other state rights. The Liberals of the neighboring republics are likewise devoted to the principles of federalism and secularism, and therefore are in thorough sympathy with the Colombian Liberals. All three republics formed, for a brief period after gaining their independence from Spain, a single state that was known as Great Colombia. Their population is homogeneous, and political rivalries or jealousy have not disturbed their good relations, boundary disputes, as they have arisen from time to time, having been settled by arbitration. Of each of them the political history has consisted of a long struggle to uproot the clerical rule that is a heritage from Spanish dominion. As a result of clerical rule in Colombia for fifteen years, while public works have been neglected and the public credit ruined, friars and nuns swarm everywhere and live on the fat of the land. The religious orders have gained the upper hand, and what they have accomplished in Colombia they hope to in Venezuela and Ecuador. Hence the Liberals of those republics were impelled to take an active part in the revolutionary uprising in Colombia.

In the summer of 1901 Gen. Uribe Uribe arrived from the United States to take the lead of a fresh insurrection against the Government. Revolutionists gathered early in July at Cocle, and in consequence the Government sent troops to hold Bocas del Toro, where martial law was proclaimed. Venezuelans and Colombians marched across the frontier, and between La Hacha and Guajira, Venezuelan gunboats commanded by Gen. Echeverria, who was a Colombian by birth, hovered on the coast. On July 18 the Government announced that it would suspend payments on ac-

count of war materials it had purchased in order to be able to pay the armed force and civil officials, and would expropriate whatever was necessary for feeding, equipping, and transporting the army, and levy forced loans or impose war contributions in the departments without resorting to national funds. The governors were authorized to proceed in the matter without requiring the approval of the Government, and each governor was held responsible for the suppression of rebellion in his department. A force said to number 6,000 crossed the frontier on July 29 into Venezuela, and was repelled by 10,000 Venezuelans and Colombians assembled there after a fight that lasted all day and part of the next. A few days later another Colombian force, 2,000 strong, crossed the frontier under the command of the Minister of War. Colombian rebels attacked Government troops on the isthmian railroad near Colon, but were driven off. The American yacht *Namouna*, which the Colombian Government had bought to convert into a war vessel, and renamed the General Pinzo, arrived at Colon, and was equipped with guns. Gen. Castro denied that a state of war existed between Venezuela and Colombia, declaring that the two invasions were the work of the Conservative Government of Colombia against the majesty of the nation of Venezuela, not an international attack by the people of Colombia against the people of Venezuela. A section of the Colombians, he said, had attacked Venezuela. This attitude was altered into one more warlike in consequence of the action of the military authorities in Cucuta toward the Venezuelan consul and the invasion of Venezuela by organized Colombian troops who plundered the people. The attention of the Colombian minister was called to this fact, and he explained that troops had crossed the border contrary to express orders to observe neutrality. Venezuelan revolutionists joined the Colombians in incursions into Venezuelan territory and seized the opportunity to raise the standard of revolt against President Castro (see VENEZUELA). Venezuelan troops landed in Colombia and Colombian troops invaded Venezuela, but still a state of war was not recognized. A force of 10,000 Venezuelans was concentrated on the frontier for the avowed purpose of protecting the national honor of Venezuela and the inviolability of her territory, without, however, breaking off commercial and friendly relations with Colombia. The Venezuelan President, after establishing the fact that regular Colombian troops had crossed the frontier, proclaimed martial law, recognized the Colombian rebels as belligerents, directed that his passports should be given to the Colombian minister, who, without waiting for that formality, left the country, and withdrew the exequature of Colombian consuls. The governments of Ecuador and Nicaragua gave assurances that they would remain completely neutral in relation to the internal conflict in Colombia.

A German merchant steamer was detained in the harbor of Cartagena and searched by the Colombian authorities, and Abel Murillo, secretary to Gen. Uribe, was arrested on board in spite of the protests of the captain of the ship, who claimed that the passengers enjoyed the protection of the German flag. German cruisers were ordered to Colon and Panama. When the revolutionists appeared on the Isthmus of Panama the United States gunboat *Machias* was sent to Colon, and subsequently the battle-ship *Iowa* was ordered to Panama, and the *Philadelphia* and the *Ranger* to the Pacific side of the isthmus. The naval commanders had orders to interfere in case the rail-

road or other American property was in danger or communications across the isthmus interrupted. To repel the advance of Colombian revolutionists and their Venezuelan allies Colombian troops were massed on the frontier.

The interest of the United States in the Colombian and Venezuelan broils was chiefly concerned in keeping the route over the Panama isthmus open to peaceful traffic, which the United States has the legal right and the duty to do under the treaty of 1846 with the republic of New Granada, in which the United States guaranteed the complete neutrality of the isthmus, so that free transit from ocean to ocean shall not be interrupted or disturbed. This guarantee was given in consideration of special rights conceded to the United States on the isthmus. Germany possesses valuable commercial interests in both republics.

In the middle of August the Colombian rebels advanced toward Bocas del Toro, looting on the way the Chinese stores at Emperador. They encamped before Bocas del Toro, and demanded the surrender of the town. The Government garrison was reinforced, and took up a position on the opposite side of the lagoon, and rifle fire was exchanged daily between the two lines of entrenchments, 2,000 yards apart. Both sides obtained boats, but neither ventured to attack the other on its own ground. The revolutionists made an attempt to seize the town after the Government troops went into camp outside. The movement was observed by the commander of the troops, who sent out men in several steamboats to intercept their solitary boat, which was compelled to put back in a crippled condition. The troops brought an old cannon into play, but the revolutionists kept their position until Sept. 14, when Col. Gruzo made a night attack in front and rear, having landed his troops unobserved from boats and launches. After a sharp fight the Liberals fled from their island camp, leaving 30 killed and wounded, 40 prisoners, and their guns and ammunition. Two modern cannons that the insurgents had and their other weapons were obtained from Costa Rican and Nicaraguan towns. When the rebellion broke out the Colombian Government placed an interdict on all trade with foreign ports. Colon was the only Colombian port left open. The consular officers of foreign governments threatened to send for gunboats if the ports were not reopened, and soon the embargo was lifted. The United States Government on Aug. 24 proffered its good offices to bring about a reconciliation between the Colombian and Venezuelan governments. The answer of Venezuela placed the responsibility on Colombia. The American minister in Bogotá also gave notice that the United States would be obliged to intervene with force if isthmian traffic were interrupted or threatened. The Colombian Government expressed its willingness to accept the mediation of the United States, if needed, to avert war, and denied having invaded Venezuela, placing the burden of the issue on President Castro.

Gen. Uribe's expedition made a successful landing, raised the Liberal standard, captured some guns at San Cristobal, and pursued the Government troops into the interior after beating them in two battles. In a manifesto Gen. Uribe declared that he was fighting for the union of Colombia, Ecuador, and Venezuela in a Great Colombia.

Gen. Pedro N. Ospina, who succeeded Gen. Pinzon as Minister of War, arranged a conference with those of the Liberal leaders who were not actively engaged in the rebellion, and proposed a plan of pacification according to which the revo-

lutionary army was to be merged in the regular army and a new Government formed in which the Liberals and Conservatives should both be represented, President Marroquin retiring. The acting President had Gen. Ospina arrested on the charge of treason, and appointed Dr. Concha Minister of War.

On Sept. 9 Gen. Davila landed a force of 800 men near La Hacha, which marched on the town while his gunboats threatened La Hacha from the sea, but did not fire upon the town. The Colombian regulars withdrew as the Liberals and Venezuelans advanced, then gathered again in greater numbers, and on Sept. 14 surrounded and defeated Gen. Davila's force, which was caught on both sides of a river with the bridge broken, while José Dolores, an Indian chief, placed his warriors in ambush on the line of retreat to Venezuelan territory. The revolutionary army was dispersed. Gen. Echeverria was killed with a large number of Venezuelans in the decisive engagement at Curuzo. The Colombian Liberals were rallied by Gen. Castillo. Venezuelan troops, 8,000 strong, concentrated on the frontier between San Cristobal and Cucuta, and under the command of Gen. Valencia a Colombian force of 6,000 men was massed against them in the beginning of October. No shots were fired from either side. Meanwhile fresh notes were exchanged between the governments asking explanations. A Cabinet crisis occurred at the end of September, the result of which was that Miguel Abadia Mendez took the portfolio of Foreign Affairs.

In Venezuela troops were organized at Maracaibo for a fresh landing in Colombia, and during the absence of the gunboat Boyaca they seized a position and blockaded Tumaco. Colombian revolutionists under Gen. Avelina Rosas were defeated by the regulars in southern Cauca early in November. President Castro, of Venezuela, was hindered by risings of the hostile party in his own country from giving substantial support to the Colombian Liberals.

Gen. Uribe Uribe, with 6,000 men, was master of the rich coffee-growing department of Santander, where the revolution began. The Liberals overran the department of Bolivar, the Government troops holding only the seaports. The destruction of the railroad from Cartagena to the Magdalena cut off military communications between the ports and the interior. Advancing through the department of Cauca to the Pacific coast, the revolutionists invaded the Isthmus of Panama, where they found some support among the merchants. They were dispersed in small detachments through the northern quarter of Colombia, and the 40,000 Government troops were also widely scattered. The capital and the great mountain plateau on which it is situated was safe from invasion unless the insurgents could obtain river boats enough to transport an army and supplies up the Magdalena. The people of Costa Rica, Nicaragua, and Honduras, as well as the Venezuelans and the Liberals of Ecuador, gave aid and support to the revolutionists. Colon declared for the revolution, and Pinzon threatened to bombard the town. Commandant McCrea, of the Machias, forbade this on Nov. 25 until non-combatants could escape. Colombian troops were landed to attack the rebels in Colon, and United States marines from the Iowa were landed by Capt. Perry to guard the railroad. Gen. Alban, Governor of Panama, with 600 men, attacked the Liberals unsuccessfully at Chorrerra, and then marched against the body that held Empire and Culebra. The Iowa and the Concord at Panama, and the Machias and the Marietta at Colon, had

most American property. French, German, and British war ships were in those ports. (See COLORADO. See also UNITED STATES.)

CONGO, INDEPENDENT STATE OF THE,

The Congo Free State, a nominal independent, neutral, and independent state, was created out of the Congo International Conference of 1884-85, which was founded by King Leopold, of Belgium, in 1884, and exercised sovereign powers recognized by the leading powers. The general act of Berlin, signed on Feb. 26, 1885, recognized the Independent State, with Leopold II, King of the Belgians, as its sovereign. On July 3, 1890, a convention was signed between Belgium and the Congo State, ratified by the two Belgian Chambers on July 25, 1890, providing for annexation to Belgium of the territories of the Independent State after a period of ten years. The seat of the Central Government is at Brussels, where the Secretary of State, Baron Edmond van Eetvelde, directs the administration with the assistance of secretaries in the various departments. Bowa is the headquarters of the local Government, which is generally in charge of a Vice-Governor-General—Major E. Wangermee in 1901. King Leopold, by a will dated Aug. 2, 1889, bequeathed his sovereign rights in the Congo territories after his death to the Belgian state. In the convention of 1890 the Belgian Government agreed to advance to the Congo Free State a sum of 25,000,000 francs, 5,000,000 francs to be paid immediately and 2,000,000 francs annually for a period of ten years. During these ten years the loan should bear no interest, and six months after the term expired the Belgian Government should have the option of annexing the Congo Free State with all the appurtenances, rights, and advantages attaching to the sovereignty of that State, in which case a law would be made to determine the special *regime* under which the territories should then be placed. From the date of the convention the Belgian Government was entitled to receive such information as it desired to have regarding the finances, customs tariff, and economical and commercial situation of the Free State in order to have a clear idea of the financial situation, the only connection of the Free State with Belgium being the personal union of the two crowns. If at the expiration of the ten years the Belgian Government should decide against annexation, the sums advanced would be redeemable after a further period of ten years, during which interest would be charged at the rate of 3½ per cent., and sums accruing from concessions of State lands or mines should be set aside for the repayment of the loan. The preamble of the convention alluded to the principle that the right of option might be extended in exchange for a temporary abandonment of any claim for interest. As there was some popular opposition to colonial enterprise in Belgium, and as the King was not willing to hand over the control of the administration, at any rate without a clear understanding of the conditions on which it would be carried on in the future, he decided, in consultation with his ministers, to postpone annexation until the law defining the special *regime* could be elaborated to the satisfaction of all parties. The Belgian Government therefore passed a law in 1901 reserving the option to be acted upon later in consideration of the remission of all claim for interest for a new period of ten years (see BELGIUM). The convention, which expired in February, 1901, precluded the Free State from contracting other loans outside. Nevertheless the Free State did obtain from an Antwerp bank a loan of 5,000,000 francs at 6 per cent., secured by a mortgage on a large tract of territory in the upper Congo region. The

money was needed to defray the expenses of suppressing the Arab revolt and to pay the cost of expeditions into the Nile valley. In spite of the increasing revenue from ivory and other sources the budget continued to show a deficit, and it became necessary to apply to the Belgian Government. Jules de Burlet, who was Premier, proposed to annex the Congo State at that time, and presented a bill to that effect, but owing to political reasons this was withdrawn and the Belgian Chambers voted to advance, under the same conditions as the former loans, a sum sufficient to pay off the loan contracted with the bank and to meet the deficit. This increased the indebtedness of the Free State to Belgium to about 32,000,000 francs. Since 1895 the financial condition of the Free State has been increasingly prosperous. By virtue of a treaty made with Great Britain and Egypt in 1894 the Free State occupied under lease the enclave of Lado on the upper Nile, in the Bahr el Ghazal province. The lease embraced this entire province, but the sovereignty of the Free State made a promise to the French Government without any consent on the part of Great Britain that the Free State would not profit by the treaty beyond a certain limit. The Lado district was in continuous occupation of the Free State forces until and after the reconquest of the Soudan by the Anglo-Egyptian army, and in 1901, when the whole course of the river Nile was occupied by the British, there were six times as many Congo troops at Lado as there were English. The lease of the whole Bahr el Ghazal was not repudiated by Great Britain when the Congo State in deference to French objections waived its right to claim possession and withdrew its forces to the Lado enclave. On the contrary, it was declared to be in full force by Lord Salisbury, who, by reasserting its validity, intended to affirm the claims of England to this region against the designs of the French Government, which was preparing expeditions to take possession of it and hold it subject only to the right of the Khedive of Egypt and his suzerain, the Sultan of Turkey, to reclaim the province. France having relinquished all pretensions in this quarter, the Congo Free State proposed to Great Britain in the spring of 1901 to exercise its rights under the lease to take possession of and administer the entire Bahr el Ghazal. The negotiations ended in an agreement whereby a part of the Bahr el Ghazal apart from the Lado district was given over to the Congo State during the lifetime of King Leopold, at whose demise all the leased territories will become Anglo-Egyptian possessions. A strip of territory at the eastern extremity of the Congo State which King Leopold leased to Great Britain in 1894 was not occupied, and the rights under the lease were abandoned in deference to the protest of the French and German governments that no part of the Congo territory under the treaties constituting the Free State could be alienated without an international agreement. In September, 1900, a German force seized Belgian stations on this eastern border and compelled the Free State troops to withdraw under threat of hostile action, claiming that the land was within the limits of German East Africa.

Area and Population.—The north bank of the lower Congo belongs to the Independent State from Banana to Manyanga, and from that point the southern bank. In the interiors the territory embraces the entire basin of the Congo, except that the Kwango and Kassai rivers divide it from Portuguese territory on the southwest, and the Congo, from Manyanga to the mouth of the Ubangi, and the latter river throughout its entire course, from

French territory on the northwest. Lake Bangweolo, Lake Moero, Lake Tanganyika, and Lake Albert Edward, and connecting lines, form the eastern boundary and in the northeast, where the meridian of thirty degrees of east longitude and the water parting between the Nile and the Congo make the political boundary, a district in the Anglo-Egyptian sphere leased by arrangement with Great Britain gives access to the Nile. The territories of the Independent State are divided into the districts of Banana, Boma, Matadi, the Cataracts, Stanley Pool, East Kwango, Lake Leopold, Bangala, the Equator, Ubangi, Welle, Stanley Falls, Aruwimi, and Lualaba-Kassai. The entire area is estimated at 900,000 square miles, and the population at 30,000,000.

The number of whites on Jan. 1, 1900, was 1,958, of whom 1,187 were Belgians, 176 Italians, 99 English, 95 Dutch, 81 Swedes, 72 Portuguese, 53 French, 39 Danes, 33 Americans, 25 Norwegians, 13 Swiss, 6 Spaniards, and 30 others. There are 300 missionaries in 76 missions, 180 of the missionaries being Roman Catholics and 120 Protestants.

Finances.—The revenue for 1899 was estimated at 19,966,500 francs, and expenditure at 17,251,975 francs. For 1900 the estimate of revenue was 26,256,500 francs, of which 2,000,000 francs came from the Belgian treasury, 1,000,000 francs from the sovereign, 4,680,000 francs from customs, 3,800,000 francs from transport, 11,200,000 francs from the State domains, 2,950,000 francs from former budgets, and 626,500 from various sources. The expenditure for 1900 was estimated at 27,731,254 francs, of which 110,360 francs were for central administration, 11,050,013 francs for the Department of the Interior, 15,423,681 francs for the Department of Finance, 158,000 francs for the Department of Foreign Affairs and Justice, and 989,200 francs were for contingencies.

The Congo State issued 70,000,000 francs of bonds under a decree in 1888 authorizing the issue of 150,000,000 francs; next 14,000,000 francs at 4 per cent. in 1896; and in 1890 and subsequent years received an advance of 25,000,000 francs from the Belgian Government, to be paid with 3½ per cent. interest after 1901, provided the territory of the State should not be annexed by that date. In 1895 the Belgian Government advanced 6,804,415 francs more.

Military Force.—The defensive force of the Independent State consists of 23 companies of native troops, numbering 11,850 men, commanded by 200 European officers and 241 European non-commissioned officers. At Boma, the station of the Cataracts, and the Equator station, and in the Ubangi-Welle, Aruwimi, and East Kwango districts single companies were kept in 1900, while at Stanley Falls there were six, in the Ubangi-Bomu territory two, and in the territories of the Welle four companies. The army is recruited partly by voluntary enlistment, but by the decree of July 30, 1891, all the natives between the ages of fourteen and thirty are liable to service, and an annual recruit, which was 2,000 men in 1896, is drawn by lot. The period of service is five years. At need all the workmen and employees can be called to arms to form an auxiliary corps.

Commerce and Production.—The general commerce, including the produce of adjacent regions exported by way of the Congo and imports destined for those regions, as well as the exports and imports of the Congo State's own territories, amounted in 1899 to 27,103,000 francs for imports and 39,138,000 francs for exports. The principal article of export is caoutchouc, exports of which amounted to 28,974,000 francs. Next comes ivory,

exports of which were 7,555,000 francs in value; then palm-nuts, exported to the amount of 1,554,000 francs; and palm-oil, of the value of 834,000 francs. The special imports amounted in 1899 to 22,326,000 francs, and special exports to 36,068,000 francs. The values in francs of imports from and exports to various countries in 1899 are given in the following table:

COUNTRIES.	Imports.	Exports.
Belgium.....	16,231,000	33,050,000
Netherlands.....	2,208,000	3,531,000
Great Britain.....	3,364,000	297,000
France.....	2,479,000	52,000
Germany.....	1,632,000	178,000
Portuguese possessions.....	283,000	1,567,000
Portugal.....	201,000	12,000
Other countries.....	705,000	51,000
Total.....	27,103,000	39,138,000

The special imports were valued at 22,325,847 francs, special exports at 36,067,959 francs. The special imports of textiles and clothing were 5,147,610 francs in value; of articles of food, 3,887,912 francs; of steamboats, 2,704,819; of articles of drink, 1,718,627 francs; of metals and metal manufactures, 1,667,391 francs; of machinery, 1,492,310 francs; of arms and ammunition, 932,073 francs. The Government gives a bounty for every area planted with coffee-trees when these have a height of 30 inches. Cacao plantations are similarly encouraged. Enormous numbers of coffee-trees have been set out with the object of getting the reward, but many of the plantations are on unsuitable land and many are unfruitful through neglect. The Congo railroad has fulfilled the highest expectations of its promoters, and, in connection with the steamer service on the navigable waterways, reaching to the farthest confines of the Congo territories, the imports grew from 12,500,000 francs in 1894, and exports nearly trebled in the same time. The ivory trade continues to be large, and rubber exports are increasing. The coffee-plantations are coming into bearing, and spice-plantations are springing up. The bulk of the trade is in the hands of the Belgians, and almost the entire export of rubber goes to Belgium, 2,031,599 kilograms out of a total of 2,113,465 kilograms in 1899. The imports in 1900 reached the total of 32,000,000 francs, and exports rose to 51,000,000 francs.

Railroads, Posts, and Telegraphs.—The railroad connecting Matadi on the lower Congo with Ndolo and Leopoldville on Stanley Pool was opened to traffic on July 6, 1898. It has a length of 260 miles. In Mayumbe a railroad is being built for local traffic, of which twenty miles were completed before the end of 1900. Surveys are in progress for a railroad to connect the head of navigation on the upper Congo with the great lakes. The Government has 4 steamers for the transport service between the mouth of the Congo and Matadi, and more than 100 on the upper Congo. The Belgian Premier planned in case of annexation to purchase the railroad for 70,000,000 francs, 40,000,000 francs representing the debenture shares, and 30,000,000 francs the ordinary shares. Owners of the stock objected so strongly that he withdrew the proposal. A Franco-Belgian syndicate has proposed to build a railroad from Stanley Pool to Tanganyika, with a branch to Lado.

The post-office in 1898 forwarded 104,032 pieces of mail matter in the internal and 343,645 in the international service; in 1899 the numbers were 105,924 for the internal and 332,520 for the inter-

service. The posts cover the Free State from the Atlantic to Lake Tanganyika.

Telegraph lines have a total length of 795 miles.

Navigation.—At the ports of Boma and Bahr-el-Ghazal were entered 192 vessels engaged in foreign commerce, of 309,945 tons, in 1899; cleared, 197, of 379,715 tons. Of the total tonnage entered 191,643 tons and of that cleared 189,993 tons were Belgian, 79,037 tons entered and 85,588 cleared were British, and 65,682 tons entered and 67,112 tons cleared were German. In the coasting trade 440 vessels, of 19,838 tons, were entered, and 451, of 29,557 tons, were cleared.

Native Insurrections.—After the Budja revolt was suppressed by Capt. Verdussen the Batatelas became unruly in the Lualaba and Kassai regions, and on the Welle the Ababuas rose in revolt, cutting off communication with Lado, and attempting to seize the arms stored at Lobokwa, where they suddenly surrounded the garrison of 40 men and killed a native soldier. The sending of reinforcements checked this rebellion. At Sankuru disturbances occurred as a sequel to the operations of Major Malfeyt against rebels at Luluaiberg. Commandant La Haye, with a force of 500 men, started for the Welle in June, and gradually brought the last of the rebels in that region to submission. Agents who were guilty of cruelty to natives in the Katanga district and elsewhere were condemned by the courts. Col. Bartels made a tour of inspection as a special commissioner to report on modifications that might be required in local methods of administration. King Leopold and his officials were determined to root out the abuses that have been charged against the Congo Administration. Foreign missionaries and others who have criticized the Free State Administration condemn the system of leasing public lands for private exploitation, charging that the natives are driven from the best land that they have in cultivation. These private domains in 1900 yielded to the treasury 100,000,000 francs, while the income from the Crown domains was 700,000 francs. In the Mongolla district, where the natives were provoked to revolt by the cruelty of Belgian agents, Capt. Marculier established a chain of military stations. In the Kassai district Capt. de Wulf obtained a decisive victory over the rebellious tribe of Bena-Lulus. Of the Batatelas who revolted against Baron Dhanis in 1895 and have since been pursued by the Free State troops, a band of 300, while encamped north of the river Luama, was attacked by 150 native troops under Capt. Anderson, and after a brief engagement compelled to surrender. There were still 1,000 rebels in the mountains bordering Lake Kassai, where by terrorizing the surrounding district they gained allies. A punitive expedition was sent out in April under the command of Major Malfeyt, who posted himself, with 700 men, at the confluence of the Congo and the Lukuga, while Capt. Savaes, with 150 men, took up a position where the Lualaba enters the Congo, and Major Vandenbroeck, with 200 men, went to Kilwa, on Lake Moero, smaller detachments occupying intervening posts so as to make possible a general enveloping movement and cut off escape either to the north or into British territory on the south. The Batatelas, who had obtained repeating rifles from Belgian and English traders, were joined by other tribes. One section when hard pressed went over the line and surrendered to the Germans, but the main body outnumbered the Free State troops. The insurgent Ababuas in the Welle region were finally brought into subjection in August by Lieut. La Haye, who had 600 men in his command. The re-

volt in the Mongolla district and in the region of the Kassai was checked in September. An important military post was established at Ndobo.

CONGREGATIONALISTS. The following summaries of the Congregational churches in the United States are given in the American Congregational Year-Book for 1901: Number of churches, 5,650; of churches added during the year, 46; of ministers, 5,568; of church-members, 635,791, showing a net gain for the year of 5,118; of members of Sunday-schools, 743,634; of additions on confession during the year, 27,101; of baptisms, 11,518 of adults and 11,837 of infants; amount of benevolent contributions, \$2,212,536, showing a gain of \$77,263; of contributions for home expenditure, \$7,497,930. The contributions for foreign missions were \$501,987, and those for home missions \$1,699,074.

The seven theological seminaries returned 325 undergraduate students.

The American Congregational Association maintains the Congregational House, Boston, is accumulating a library, portraits, and relics of the past, and cares for whatever may illustrate Congregational history and promote the interests of Congregational churches.

The contributions to the Sunday-School and Publishing Society for the year ending Feb. 28, 1901, were \$57,617, and its available income from all sources was \$76,156. It had 20 superintendents, 14 missionaries, and 3 correspondents, and published 6 periodicals, as well as a list of books on religious and Congregational subjects.

The Board of Ministerial Relief returned the Ministerial Relief fund of the National Council at \$118,000; from which an income of about \$5,000 accrued, to be distributed among beneficiaries in portions of from \$25 to \$200 a year. Sixty-four persons and families—disabled ministers, widows, and children—had been thus aided in 1900.

Education Society.—The twenty-fifth annual report of the Congregational Education Society represented that increased sums had been contributed in the West, and that the society had given considerably more to academies and missions than in the previous year; that it had paid all outstanding claims, was clear of debt, and had a small working balance in the treasury; and that in the student department all claims had been promptly paid and a surplus remained. The year had been very successful in New Mexico, where new buildings had been erected at Cabezon and Cubero; and much had been accomplished in Utah, at the Gordon Academy. Work had been set forward at Kingfisher, Eureka, and Chadron. In the department of theological scholarships more men than usual had accepted grants as loans, giving their notes in payment. One hundred and thirty-nine men, or one more than in the previous year, had received scholarships. A large demand from Southern Congregational churches for educated ministers was remarked, and the expediency of establishing an institution in the South was suggested.

Church Building Society.—The forty-eighth annual meeting of the Congregational Church Building Society was held in New York city, Jan. 10. The total receipts for the year 1900 had been \$213,160, of which \$98,471 had been from churches and individuals, \$28,083 from legacies, \$55,304 from loans returned, and the rest from other sources. Loans amounting to \$109,000 had been voted to 49 churches, and grants amounting to \$76,973 to 97 churches. Both loans and grants had been voted to 26 churches. Loans amounting to \$39,158 had been paid to 26 churches, grants of \$60,881 to 70 churches, and both loans and grants

to 15 churches. On parsonage account, \$24,810 had been voted to 50 churches, and \$24,195 paid to 43 churches. It was represented at the National Council of Congregational Churches that during its existence this society had bestowed aid upon more than 3,200 churches and 760 parsonages, and only a very few such organizations had passed out of existence without fulfilling the obligations created by such aid. Already \$3,800 more had been contributed back by aided churches than they had received.

Home Missionary Society.—The seventy-fifth annual meeting of the Congregational Home Missionary Society was held in Boston, Mass., May 14, Gen. O. O. Howard presiding. The Executive Committee reported that the total receipts for the year by the national and auxiliary societies had been \$538,986, of which \$203,701 were by the auxiliary societies. A debt of \$108,544 at the beginning of the year had been reduced to \$63,698. Eighteen hundred and sixty-three missionaries had been employed during the year in 46 States and Territories, and reported 183 new Sunday-schools organized, 147,274 pupils and Bible-class scholars in organizations under the society's care, and 5,113 additions on confession. The society gave its assent to a measure for consolidating the several Congregational missionary anniversaries and the magazines of the societies. This measure provides that two meetings of the benevolent societies be held each year, one in the East and one in the West, one for foreign and one for home work, one in the spring and one in the fall; and that a single monthly magazine covering the work of all the societies be published. A committee was appointed to cooperate with similar committees from the other societies in carrying out the measure.

At an informal meeting of members of this society at which representatives of the auxiliary societies and of the National Society were present, a committee of fifteen was constituted to consider and report some plan for perfecting the relations between the auxiliaries and the national society. Five members of this committee were nominated by the auxiliary societies and five by the Executive Committee, these ten after having been elected by the national society to elect five more; the entire subject of reconstruction to be committed to this committee, to be reported upon by them at the next annual meeting of the national society. These proceedings, on being reported to the society, were approved by it, and the ten committeemen, representing the auxiliaries and the Executive Committee, were appointed. It was agreed, in order to secure a *modus vivendi* between the national society and the auxiliary societies pending the action of the Committee of Fifteen, that the national convention for the purpose of making estimates and apportionments for the work should be continued; that such a convention be called at an early date by the Executive Committee to make estimates and apportionments for the rest of the fiscal year; that the auxiliary societies, whether they have entered into new relations with the national society or not, be invited to participate in the convention; that the question of rebates as provided in the contract of 1898 be left to be adjusted between the Executive Committee of the national society and the several auxiliaries; and that all appeals for funds by the national society within auxiliary States be in harmony with the work of the auxiliaries. The object of the movement was intimated to be the attainment of a close organic union between the auxiliary societies and the national society. Gen. O. O. Howard resigning the presidency

of the society, the Rev. Newell Dwight Hillis was elected to that office.

The adjustment of the relations between the national Home Missionary Society and its auxiliaries has been under discussion since 1893, when a convention of the National Committee of the American Home Missionary Society and representatives of the State societies was held, and a compact was entered into concerning the collection and distribution of funds. Under this compact all contributions of funds for the home missionary cause in auxiliary States were sent directly to the treasuries of those States. Estimates were to be submitted annually in convention by the auxiliaries of expected receipts and of the need for funds for the work in each State, to be passed upon by the convention after the estimates of income and needs of the national society for the same year had been presented; and a scheme of apportioning the funds was arranged. The working of this plan proved not satisfactory to the national society, and, under a provision permitting withdrawal on giving one year's notice, such notice was submitted to the convention in January, 1900, together with a statement of the reasons for taking the step. A substitute form of compact was drafted and submitted to the several societies. Only a few of the auxiliary societies responding favorably to the new proposition, the national committee by resolution expressed its strengthened conviction that the old compact was impracticable, and its desire to co-operate in future with each auxiliary State separately, "in respect to all matters of mutual interest in procuring and appropriating funds and in the prosecution of missionary labors generally." The committee also declared its judgment to be that the change it proposed should "lead to a more simple plan for direct appeals to the churches in all States and largely increased contributions to the treasuries, by which the work of the auxiliary States need not be hindered in the least, while the work will receive wider support than ever hitherto." These resolutions having been presented to a final convention, held in January, 1901, the national committee at its next meeting considered a plan for future co-operation with auxiliary States, and sent to the committees of those States a platform of propositions representing that "the Executive Committee of the national society recognizes that there can be no separation of territory for its field of service, and that it is bound, therefore, to consider the needs for work within the limits of the auxiliary States as carefully as elsewhere, and to that end seeks the counsel and cooperation of the several State societies. While the national society is the direct representative of each and every Congregational church in the country for the administration of this great commission, and as such must appeal to them severally for support, its committee recognizes, also, the demands and needs of the State organizations for their independent work, and suggests that the responsibility for a suitable application of contributions may properly be left with each church to determine, and thus will the constituency in every church become immediately and continue to be always clearly familiar with its individual share in the support of home missions, both locally and over the wide field, which latter, however, will to some extent include, at the discretion of the national society, aid and service to some of the auxiliary States." The maintenance of the annual convention was agreed to, with the understanding that it should receive reports and estimates of receipts and expenditures of the Congre-

gational Home Missionary Society and each auxiliary for the past year and the coming year, and consider all questions of common responsibility and mutual helpfulness. The principal effect of the new plan is considered to be to make the national society free to appeal directly to any Congregational church for funds, leaving with every such church the responsibility for the precise direction of its gifts, and to give a clear recognition and definition of the importance of the work in auxiliary States.

American Missionary Association.—The fifty-fifth annual meeting of the American Missionary Association was held at Oak Park, Ill., Oct. 22 to 24. The Rev. Washington Gladden, D.D., presided. The treasurer reported that the total receipts for the year had been \$351,750, and the expenditures \$353,352. The receipts were \$15,970 more, and the expenditures \$17,523 more than in the previous year. The contributions of the women's societies amounted to \$24,733. For four years the association had reported all obligations paid and no debt at the close, and it had created no new debt for seven years. The report of the Executive Committee mentioned a slight increase in the number of the schools, with more than 1,500 additional pupils, and enlarged church work. The educational work in the South included 6 chartered institutions, 43 normal and graded schools, and 32 common schools, with totals of 474 instructors and 14,668 pupils, 2,078 being boarding pupils. Included in these were 12 mountain schools, with 67 instructors and 2,190 pupils, of whom 463 were boarding pupils. Of these pupils, 94 were classed as theological, 308 as collegiate, 392 as college preparatory, and 1,547 as normal. The higher institutions were Fisk University, Nashville, Tenn.; Talladega College, Talladega, Ala.; Tougaloo University, Tougaloo, Miss.; Straight University, New Orleans, La.; Tillotson College, Austin, Texas; and the J. S. Green College, Demorest, Ga. All of the mountain schools except Lincoln Academy, Kings Mountain, N. C., were among the white people of the hills. The common schools were chiefly parochial schools in rural places where public schools were wanting, and were in close relationship with the churches in the States of North Carolina, Georgia, Florida, Mississippi, Alabama, and Tennessee. The new educational work in Porto Rico consisted of 2 schools, with 8 teachers and 306 pupils. The 228 churches in the South returned 140 ministers and missionaries, with 12,050 church-members, 1,454 additions during the year on profession, 17,347 pupils in Sunday-schools, benevolent contributions of \$2,707, and \$48,859 raised for church purposes. From the Indian missions were returned 20 churches, 52 out-stations, 1,414 church-members, 2,665 pupils in Sunday-schools, 48 white and 53 Indian missionaries and teachers, and contributions of \$2,988 to benevolence and church support. The schools at Santee, Neb., Oahe, S. Dak., Plumb Creek, S. Dak., Fort Berthold and Elbowoods, N. Dak., were attended by 211 pupils. The 21 Chinese missions reported 15 Chinese workers and 46 workers in all, with 1,386 pupils in the schools, 401 of whom had given evidence of having been converted. One hundred and eleven members had been added during the year to the Congregational Association of Christian Chinese. The addition, the largest ever had in one year, brought the number of Chinese converts up to 2,000. Work had been begun among the Japanese in Los Angeles and Fresno, Cal. The Alaskan mission comprised one school, 4 missionaries, and 100 pupils. An amendment to the constitution of

the association was adopted, providing for rotation in office of members of the Executive Committee. A proposition for the election of salaried officers by the Executive Committee instead of at the annual meeting of the association was referred. A proposition for having a joint annual meeting of the six Congregational societies in October was approved, and the Executive Committee was instructed to communicate with the other home societies on the subject. Propositions for the cooperation of the other five societies in the publication of a united magazine, and for the appointment of a single joint treasurer in New York for this society and the Congregational Home Missionary and Church Building Societies, were concurred in. The society recommended the appointment of a committee of the six societies for the promotion of harmony and cooperation in the collection of funds, and to suggest plans for the preservation of gifts and property to the purposes for which they were intended. A resolution was sent by telegraph to President Roosevelt approving of certain courtesies which he had shown to Booker T. Washington, "a justly honored representative of his people." A special report of the Bureau of Woman's Work showed that 451 women had been in the missionary work of the society during the year.

The American Board.—The annual meeting of the American Board of Commissioners for Foreign Missions was held in Hartford, Conn., beginning Oct. 8, the Hon. Samuel C. Capen presiding. The Prudential Committee reported that the total receipts of the year from all sources, including \$2,253 for the debt, had been \$697,371, a decrease from the previous year of \$40,586. The bulk of the deficit was in shrinkage of legacies. The regular donations from individuals, churches, and various societies had been \$509,198, of which \$198,655 had come through the several Woman's Boards (Woman's Board of Missions, Boston, \$127,874; Woman's Board of the Interior, Chicago, \$65,243; Woman's Board of the Pacific, \$5,538). While the total amount of contributions had decreased \$7,338 from the previous year, the gifts for the distinctive work of the board had increased \$8,780. The expenditures had been \$717,081, or \$14,970 less than in the previous year, while the debt had increased by \$19,710 to \$102,341. The general summary of the mission fields gave as the numbers in the 20 missions: Of stations, 97; of out-stations, 1,209; of places for stated preaching, 1,661; of ordained missionaries (17 being physicians), 167; of physicians not ordained, 14 men and 9 women; of other men assistants, 4; of women (including 9 physicians, 168 wives, and 182 unmarried), 350; whole number of laborers from the United States, 544; of native laborers (including 240 pastors, 513 preachers and catechists, 1,930 school-teachers, 293 Bible women, and 507 others), 3,483; making a total of 4,027 American and native laborers; of churches, 505, with 50,892 members, of whom 4,551 had been added during the year; number of members from the first as nearly as could be learned, 157,658; of members of Sunday-schools, 66,601; of persons under instruction, 62,188, including 228 students for the ministry in 17 theological schools and seminary classes, 10,225 pupils in 103 boarding and high schools, and 49,375 pupils in 1,135 common schools; amount of native contributions, so far as reported, \$147,879. In Africa, improved conditions were noted among the Zulus, with steps taken toward the beginning of systematic church organization. In Micronesia, Ponape had been reopened to missionary residence after ten years of virtual exclusion, and Guam, in the Ladrone

Islands, had been occupied as a new missionary center. Indemnity for losses incurred in Turkey during the massacres of 1895 and 1896 had been paid over to the United States Government, and would be distributed as soon as the formalities could be complied with. Increase in the number of native pastors, the average congregations, Sunday-school pupils, churches, and church-members was recorded in western Turkey. In central Turkey a Home Missionary Society had been organized by the native brethren. In European Turkey gain was marked in all the main features of the work. The conditions in China and progress in recovery after the Boxer disturbances were reviewed. In Japan the theological seminary of the Dosisha had been opened again, under a Christian constitution, and the Mission of the United Brethren was cooperating in sustaining it. In Austria a mission house had been dedicated in Vienna, restrictions on the holding of religious meetings had been relaxed, interest in temperance work was increasing, and the popular Protestant movement was growing. The church-membership of the mission had increased 17 per cent. Nine hundred copies of the Sunday-school helps in Bohemian, prepared for the mission there, were called for by Bohemian populations in the United States. In connection with the enterprise called the Forward Movement, there were now 82 churches and 3 individuals supporting 105 missionaries. The Twentieth Century fund was represented to amount, in cash and pledges, to nearly \$100,000. The committee on corporate membership recommended a change in the make-up of the body under which the committee shall be required to choose only one-half instead of three-fourths of the membership of the board from nominations made by the State associations. In an effort to secure contributions and pledges for the payment of the debt of the society, it was announced that \$48,000 had been given by an unknown friend which could be applied for the purpose. Contributions were asked for and the whole of the remaining amount of the debt—\$54,000—was secured in less than an hour.

National Council.—The National Council of Congregational Churches met in its eleventh triennial session at Portland, Me., Oct. 12. The Rev. Amory H. Bradford was chosen moderator. The report of the secretary showed that during the three years since the last preceding meeting of the council there had been gains of 36 churches, 7,485 members, and \$1,023,906 in home expenses, while losses had occurred of 1,211 in children baptized, 13,961 in membership of Sunday-schools, 32,103 in membership of Young People's Societies, and \$547,260 in benevolent contributions. The report of the National Council Ministerial Relief fund represented that the assets had increased to \$125,135, and that 58 persons were receiving relief, in grants ranging from \$20 to \$200. The total receipts on account of the council for three years had been \$52,075, while the expenditures had been such as to leave a balance in bank of \$14,000. The Committee of Fifteen which had been appointed by the previous general council to consider the relations of the six benevolent societies to one another and to the churches made a report embodying recommendations which, as approved by the meeting, urged upon all the importance of laying added emphasis upon the mission work at home and abroad to which Congregationalists are pledged; requested each church to endeavor by a personal canvass to reach all its members with an appeal for some gift to each of the six missionary societies; suggested that the churches make October a missionary month; that

they make provision for instructing the young people in the Sunday-schools and Christian Endeavor Societies in every department of the missionary work; that the missionary knowledge and interest of candidates for ordination and installation be made a subject of faithful inquiry; approved of the appointment of all salaried officers of the six societies by executive boards, of one administrative head, and of a limited representative governing membership for each of the six societies; urged the five home societies to try the experiment of a united annual meeting, allowing the meeting of the American Board to remain unchanged for the present; recommended the institution of an advisory committee of seven members by the executive boards of the five home societies to hold State meetings, and to which all questions of joint action shall be referred—this committee, with the addition of a member from the American Board, to take measures looking to the organization of conference and State missionary committees and to labor for the adoption of definite and systematic plans of benevolence by the churches, and that the committee appoint a secretary of systematic benevolence; that there be one monthly missionary publication devoted to foreign and home work; and that manuals of instruction and information be issued suitable for permanent use in Sunday-schools, Young People's Societies, and other similar organizations. A report on Comity, Federation, and Unity covered the subjects of cultivating closer relations with the brethren in Canada, cooperation with other bodies in general, the observance by the Congregational churches of the principle of comity, and exchange of declarations of good-will with other bodies. The proposition approved by the council of 1898 on federation of churches was again referred to a committee, the members of which were to be chosen with a view to their being able to carry out those plans so far as they might now be found practicable. The committee was requested to provide that proposals for federation, such as have been found advantageous in Great Britain, be referred to other denominations in the United States, either through their own initiative or through the National Federation of Christian Churches and Workers, or such other agencies as might seem available to accomplish the object. The project for establishing foundations of a religious character in connection with the great State universities was approved. The preparation of a system of graded Sunday-school lessons was advised. While not questioning the propriety of solemnizing the marriage of a party who has been shown to be innocent in divorce proceedings the council urged upon the ministers the duty of withholding sanction from those whose divorce has been secured on other than scriptural grounds. A committee was appointed to report to the next council on enrichment of the worship of the churches. A board of fifteen trustees was constituted to have charge of the council's Ministerial Relief fund and its administration. Plans adopted by some of the seminaries for the training of women for service as deaconesses were approved. Approval was also given to the proposed erection of a Pilgrim Memorial Church at Plymouth, Mass.

Congregationalists in Canada.—The fifty-fourth annual meeting of the Congregational Union of Nova Scotia and New Brunswick was held in July. Papers were read and discussed relating to the practicability of present-day preaching, the minister's conversion work, and the prospect of forwarding the work of the home churches. The Woman's Board of Missions occupied three

sessions with business, reports, and presentation of conditions, needs, and possibilities. The young people of the churches received thoughtful consideration, a whole session being devoted to Young People's Societies. Other denominational interests were remembered in addresses, resolutions, and plans of work.

Congregational Union of England and Wales.—The sixty-ninth annual meeting of the Congregational Union of England and Wales was held in London, beginning April 22. The Rev. Dr. Joseph Parker, chairman, in his annual address, spoke in memory of the Rev. James Chalmers, missionary in New Guinea, news of whose murder, with those of his associate, the Rev. Oliver Tomkins, and a number of their helpers, by savages had just been received; in favor of a modification of the coronation oath to rid it of expressions offensive to a large number of the people of the kingdom; in honor of the Christian men who had lifted up their voices in condemnation of the South African War—although he did not agree with them; and bringing forward some objections to the proposed closer union of the country Congregational unions with the national union. The annual report gave an outline of the reports of the special subcommittees upon ministerial settlements and removals, sustentation, the mode of electing the chairman of the union, and the problem of churches in large villages and towns. The Young People's Union had had a year of quiet development. Additions to the Congregational library had been less numerous than in some recent years; progress was making in the examination of manuscripts, and the library was being increasingly used for the purposes of political research. It was set forth in a brief survey of the history of the union that it had seen and helped to promote a degree of cohesion among the Congregational churches at home and a solidarity among men of the same faith and order in other parts of the world which far exceeded the brightest hopes of its earlier days. The union was asked to condone the breach of one of its rules involved by the joint assemblies with the Baptist Union. The business of the publication department had attained a better average than in the previous year. An important change in the method of electing the chairman was made, by which a system of formal nominations is established. A nomination by any twenty-five representative members, acting jointly, is provided for, to be sent in by March 15 of each year. If no nominations are sent in by that date, the committee of the union is empowered to nominate not more than three nor less than two candidates for the chairmanship. A resolution was adopted declaring that "the assembly, deeply deploring the long continuance of the disastrous warfare in South Africa, is most earnestly desirous that no effort may be wanting on the part of his Majesty's Government, not only to bring about a termination of hostilities, but to secure complete and lasting peace. In the opinion of the assembly that object will be most surely realized by the adoption of a magnanimous and conciliatory policy." The report of the Church Aid and Home Missionary Society represented that the contributions from the churches were increasing, the number of contributing churches having been 44 per cent. more than in the previous year, while the gifts from the county unions to the central fund showed a serious decline. The grants for the past year amounted to £4,075—£141 less than were asked for—constituting an amount of pledges considerably larger than the anticipated income. In a review of the five years' work of the society since

its reconstruction, it was shown that while the results of its efforts had been comparatively meager and unsatisfactory, a sum of £5,923 more than in the previous five years had been raised and disbursed; the minimum of pastors' stipends in aided counties had been raised from £60 and even less, per annum, to £90, and in some instances £100; and the sum of £2,152 had been added to the reserve fund, so that the expenses of management were met without touching the ordinary contributions. The amount promised to the Twentieth Century fund of £525,000 amounted at the time of the meeting of the union to £565,704, while £25,416 had been paid to the central fund. The vast preponderance of the subscriptions had been for local objects, and the central fund, for which a large amount was desired, had received comparatively little. Of the 500,000 guineas asked for, and which had been already promised, about half was to be used for distinct or local schemes of church extension, and £150,000 more for the reduction of church debts, leaving not more than £100,000 definitely for home, colonial, and foreign missions, provision for aged pastors, etc. Special effort was urged to increase largely the amount available for those purposes. The report on the subject of ministerial settlements and removals, which had been under the consideration of a special committee, began with the declaration that united action by the denomination as a whole is an indispensable condition to the securing of practical reform. Its recommendations included a provision making the county responsible for admissions to the ministry within their separate areas under rules substantially the same and similarly administered, and an appeal to the governing bodies of the colleges to consider whether some scheme of amalgamation which would not impair efficiency but would effect economy, could not be adopted. It advised that ministers entering the Congregational ministry from other denominations should be required to give satisfactory reports from their colleges and official testimonials as to character, ministerial status, and efficiency; and suggested that no application should be considered until the applicant is in communion with a Congregational church. A course of three years' reading, with annual examinations, was suggested as the test that county unions should apply to ministers without college training seeking recognition. In the case of vacant pastorates, the desirability of inviting a neighboring minister or layman to confer with the officers and to preside at the church and business meetings was emphasized; and it was suggested that no one should be asked to preach "with a view" except after most careful inquiry. For facilitating removals, the committee recommended the appointment of consultative committees by the county unions, to which churches seeking pastors and ministers seeking pastorates should apply; that a central committee, elected by the county unions, should meet at Memorial Hall and help the consultative committees; and that these committees, pledged to secrecy, should keep careful records as to churches and ministers. The assembly expressed its general approval of the recommendations contained in the report, and requested that the county unions be asked to signify their acceptance of the paper and of the rules recommended in an appendix to it; and instructed the General Committee to appoint a special subcommittee, authorized to collect, collate, and report upon such information and suggestions on sustentation as it can obtain. The committee's report further contained a note on the subject of sustentation. While the committee were agreed

as to the necessity for sustentation and for guarding the entrance to the ministry to that end, they were divided as to the lines on which a fund should be established; one section of the committee recommended a scheme for the formation—apart from the Congregational Union—of a voluntary federation of churches pledged to elect only ministers approved by a representative committee of the federating churches; and to adopt and support a sustentation fund. The other section of the committee was of the opinion that any scheme to be effective should be formed by the Congregational Union and worked through the county unions.

Constitutional Readjustment.—The subject of a possible readjustment of Congregational usages in order to give increased strength to the denomination and greater efficiency to its work, and to avoid some of the disadvantages acknowledged to accompany extreme independence of the individual churches and the society organization, has been under discussion in the denominational newspapers for more than a year; and some of the Congregational ministers and laymen of the greatest influence have openly spoken of the introduction of some of the features of the Presbyterian system. A conference held in London, Feb. 26 and 27, for the purpose of considering questions of this nature was attended by delegates representing all parts of England. Among the subjects more prominently brought forward was that of the raising of the standard of the ministry and of the provision of more adequate support for ministers, concerning which it was suggested that a federation should be formed of churches which should confine themselves to a list of ministers approved by the representative body, and should raise a sustentation fund to be used only for persons on that list; it was also proposed that this body, board, or council be constituted of representatives of all the colleges. The constitution of the Congregational unions was mentioned as a source of weakness. Under the present system each county or group of counties has its own union, and these several unions have no connection with one another, or with the Congregational Union of England and Wales, while the last body is destitute of legislative and administrative functions. The Rev. Joseph Parker, chairman of the National Congregational Union, addressing the meeting, said that, searching for the one governing principle which might be made to underlie the schemes and suggestions that were presented, he found it in the idea of "a united Congregational Church." "When a man said 'I will never submit to authority,' he might see the question in another aspect if he were part of the authority. Here was the gist of the question. In anything, absolute freedom was impossible. We must yield something, in order that we may get something better." The feeling of the meeting was expressed by resolution to be that the time had come for stimulating the common life and emphasizing the common interests of Congregationalism by concerted action with regard to entrance to the ministry; a sustentation fund; a retiring fund; and the question of removals. Attention was called during the discussion to the successful operation of the Provident fund of the Scotch Congregationalists, which secures a retiring allowance of £60 per annum to each minister. A resolution was adopted asking the county unions "to discuss the question of a closer and more direct connection with the Congregational Union."

Joint Meeting of the Baptist and Congregational Unions.—Pursuant to arrangements made in accordance with an understanding reached

at the meetings of the Baptist and Congregational Unions in 1900, a joint assembly of the two bodies was held, for the first time, in the City Temple, London, April 23 and 24. The Rev. Joseph Parker, Congregational, was chairman of the session, and said, in opening the meeting, that its purpose was not to discuss the differences between the denominations, but to verify and magnify their bonds of union. The Rev. Dr. Alexander MacLaren then delivered his official address as president of the Baptist Union, on the subject of the Preacher's Office, its themes, its demands, its possibilities. A resolution was adopted expressing deep sorrow at the death of Queen Victoria, devout acknowledgment of God's loving gift of such an exemplary life, sincere condolence with King Edward VII, commending the King and Queen to the prayers of all Christians, grieving that the new reign and the new century began amid the horrors of war, and praying for the speedy settlement of an honorable and lasting peace. The Rev. Principal Rainy, moderator of the United Free Church of Scotland, was introduced, and spoke of the accomplishment of the union of the Free and the United Presbyterian Churches there, and of "the higher criticism." An evening meeting in the Queen's Hall, with Mr. George White, M.P., in the chair, was addressed by Principal Fairbairn, Congregational, the Rev. J. G. Greenhough, Baptist, and the Rev. Dr. Horton, Congregational. At a joint meeting of Baptist and Congregational total abstinents it was shown that all but two of the students of the Congregational colleges and all of those of the Baptist colleges were teetotallers. A resolution was adopted in the joint assembly urging the churches and Sunday-schools to assist in devising and employing means for the reclamation of drunkards, and to aid in legislative or administrative measures for the prevention of drunkenness. The resolution in reference to education affirmed "that any system of public schools, whether primary, secondary, or collegiate, should aim as its sole object at the efficient preparing and equipment of the young for the performance of their duties as citizens, irrespective of the interests of a religious denomination or political party. The curriculum should be framed so as not to violate religious equality or allow of any sectarian or party instruction. The training colleges should be equally open, and on equal terms, to all candidates for the teaching profession. All public schools maintained from public funds should be represented by public management." The annual sermon of the combined Baptist and London Missionary Societies was preached by the Rev. R. Glover. The Rev. Joseph Parker, D.D., delivered his annual address as chairman of the Congregational Union, on the subject of The United Congregational Church. By that term the speaker implied a general organization of the churches somewhat after the plan of the county unions, under which, without sacrificing their independence, they would attain greater cohesion and a higher degree of efficiency for their work. The United Congregational Church, he showed, would, guarding against unworthy beneficiaries, establish a ministerial sustentation fund; would not insist upon a uniform and inflexible way of receiving and recognizing its ministers, but would insist upon some way or some one of several ways; and would preserve the central principle of Congregationalism which finds expression in the individual church, for "the individual church is the primary and indestructible unit of congregationalism"; but "individual churches can be related, vitally and effectively related," as are, under their various constitutions, the

United States, the Swiss cantons, the departments of France, the parts of the United Kingdom, and the Australian colonies. In the United Congregational Church the completest possible unit of Congregationalism would be realized, and with it the truest conception of brotherhood; while the best would be made by it of all the resources of Congregationalism. "Nothing would be allowed to run to waste. The whole line of duty and possibility would be watched by a representative and responsible assembly either as a whole or departmentally." At a meeting held in Albert Hall, the Earl of Aberdeen presiding, the Rev. W. G. Lawes, of New Guinea, spoke of the condition and prospects of the mission and of native Christianity in that country, to which special attention was for the moment directed, on account of the recent murders of missionaries. A United Ladies' Missionary meeting, at which Mrs. S. G. Green presided, was attended by nearly 100 women missionaries of the London and the Baptist Societies, and was addressed by 7 of the number describing the conditions in their several fields.

Autumnal Assembly of the Congregational Union.—The Autumnal Assembly of the Union was held at Manchester, beginning Oct. 15, the autumnal sermon having been preached on the previous evening by the Rev. George Gladstone. The chairman, the Rev. Joseph Parker, D. D., in his opening address, made a further exposition of his scheme for a United Congregational Church. He wanted to interest all the churches in the work of Congregationalism; to do this they needed an ideal, some great uniting policy, some noble and sovereign principle, which they would find in the union he proposed. It should embrace the colleges as schools of the Church, should assume responsibility for its ministers, make provision for them in old age and when honorably retired, and unite under its care the home and foreign missionary and other societies, while the autonomy of the local churches should not be disturbed, and the trust deeds should be free from the incorporation of any theological doctrine. The address was accompanied by a sketch of the line of initial procedure which might be followed in the constitution of the Church, beginning with county conferences, and passing to a larger conference representing all the counties, which should frame a constitution for the United Church, and then to the assembly holding two meetings annually, as now, to constitute the Church. The resolutions unanimously adopted by the assembly expressed to Dr. Parker its sense of the services he had rendered to the Congregational churches by his two addresses as chairman of the union, and especially of the importance of the new ideals he had set before it; and continued: "While not committing itself to any premature approval or disapproval of the proposed 'United Congregational Church,' this assembly deems the proposal to be of such vital importance as to deserve most serious and careful consideration both by the churches represented here and by the county unions. This assembly therefore directs the committee of the Congregational Union of England and Wales to take immediate steps to bring the whole subject before the churches and the county unions for their consideration, and it further instructs the committee that when sufficient time has been allowed for the consideration and discussion of the proposal of its chairman, it shall collect and tabulate the results of the discussion, and shall embody them in a report to be submitted to the Annual Assembly of this union at the earliest possible date." A statement made in behalf of the Church Aid Society showed that 21

out of the 39 counties of England and Wales had received help from it in ministerial support and evangelistic work. In the past year £4,200 had been distributed by it toward the support of 217 pastors and 74 evangelists. Its work was purely supplemental to that of the county unions. It needed £1,000 more to meet the year's expenditure. A report of the Pastors' Retiring fund showed that the average expenditure for the past four years on annuities paid to 173 ministers had been £6,300, with £300 for office expenses. The income from investments had been £4,900, and between £1,100 and £1,200 had been realized from subscriptions, legacies, etc. An average annual deficiency of £500 had been incurred.

The subject of The Supply and Training of Local Preachers was considered at a lay conference. At a women's meeting papers were read on Our Responsibility to the Unreached Classes, and The Claims of the Girls' Guild of the Free Churches. A scheme of maintenance was proposed at a conference on superannuation. A conference was held on the relations of the councils to one another and to the churches. The council of the Twentieth Century fund adopted a scheme of distribution.

Colonial Missionary Society.—The Colonial Missionary Society received during the year covered by its sixty-fifth report, which was presented May 13, £5,236, and had a balance of £409 remaining. The grant made by the Congregational Union and that of the London Missionary Society for three years in aid of native churches in British colonies had been renewed. The report dealt with the work of the society in the various colonies, laying special emphasis on the new work begun in British Columbia and Newfoundland, on the "distressful condition of the colored churches in Jamaica," and on work in South Africa and the Australasian colonies. Mission work had been begun in the gold-fields of Tasmania.

Pastors' Retiring Fund.—The report of the Pastors' Retiring fund showed that £6,384 had been paid in annuities during the year, making £177,019 since the beginning in 1860. The number of annuitants was 173. The investments of the fund approximated, at present rates, £160,350. The pressure of applications was increasing yearly, and rendered an early increase of resources vitally important.

The Pastors' Widows' fund had paid £1,220 to 98 annuitants, making £28,190 paid since the beginning of the fund in 1870.

Chapel-Building Society.—The reports of the English Chapel-Building Society showed that it had, during forty-seven years, aided 818 churches and 37 manse, and had disbursed £215,714. During the past year notes and payments had been made for 35 churches and 11 manse amounting to £8,545. The year's income had been £5,563.

Congregational Historical Society.—The first annual meeting of the Congregational Historical Society was held in London, April 24. The treasurer reported a small balance, and the secretary accounted for the work that had been done. The first volume of the Transactions had been issued, and contained articles on Non-Parochial Registers in Yorkshire, Dr. Watts's Church Book, and From a Diary of the Gurney Family. One hundred and fifty replies had been received to 487 circulars addressed to churches founded prior to 1750, asking for information as to the existence of original records. In several cases existing histories had been presented to the society, and in others promises of forthcoming histories had been made.

London Missionary Society.—The annual meeting of the London Missionary Society was held May 13. The annual report showed that the gross income for the year had been £172,369, while the net income had been £148,203. Of the latter sum, £11,450 were for special purposes, leaving only £136,700 available for general use, while the expenditure had been £150,860. By this means the gross deficiency had been increased to £36,608. This deficiency was mentioned as the weak point in the society's position. The churches had never provided it with the amount required for the maintenance of the 70 additional missionaries sent out on the Forward Movement. Although the directors had kept grants and payments down to the lowest point, the deficiency was increasing from year to year.

Scottish Congregational Union.—The annual business meetings of the Scottish Congregational Union were held in Glasgow, beginning May 7, Mr. John Leith presiding, who was succeeded in the chair by the Rev. W. Hamilton. Reports of the Widows' fund, the Ministers' Provident fund, and the Theological Hall were considered. The Committee on Applications for Aid reported that 51 churches had received aid during the year; that 17 aided churches returned an increase amounting to 80 members, and 27 a decrease of 199. Grants of £1,345 were voted to 48 churches. The Care of Youth Committee reported that 900 children had entered for the examination, compared with 500 in the previous year. The report on foreign missions, it was explained, did not exactly reflect the attitude of the churches of Scotland, as many of the contributions were sent direct to London. Thankfulness was expressed that the churches of the union, with but few exceptions, used unfermented wine at communion services.

South African Congregational Union.—The Annual Assembly of the South African Congregational Union was held at Cape Town, Oct 23 to 31, the Rev. Walter Friend presiding. Three new churches were received into fellowship. The offices of the union were ordered transferred from Port Elizabeth to Cape Town.

CONGRESS. The second session of the Fifty-sixth Congress began Monday, Dec. 3, 1900; and after the usual official notification of the fact, the President sent in his annual message, as follows:

To the Senate and House of Representatives:

At the outgoing of the old and the incoming of the new century you begin the last session of the Fifty-sixth Congress with evidences on every hand of individual and national prosperity and with proof of the growing strength and increasing power for good of republican institutions. Your countrymen will join with you in felicitation that American liberty is more firmly established than ever before, and that love for it and the determination to preserve it are more universal than at any former period of our history.

The republic was never so strong, because never so strongly entrenched in the hearts of the people as now. The Constitution, with few amendments, exists as it left the hands of its authors. The additions which have been made to it proclaim larger freedom and more extended citizenship. Popular government has demonstrated in its one hundred and twenty-four years of trial here its stability and security, and its efficiency as the best instrument of national development and the best safeguard to human rights.

When the Sixth Congress assembled in November, 1800, the population of the United States was 5,308,483. It is now 76,304,799. Then we had 16 States. Now we have 45. Then our territory con-

sisted of 909,050 square miles. It is now 3,846,595 square miles. Education, religion, and morality have kept pace with our advancement in other directions, and while extending its power the Government has adhered to its foundation principles and abated none of them in dealing with our new peoples and possessions. A nation so preserved and blessed gives reverent thanks to God and invokes his guidance and the continuance of his care and favor.

In our foreign intercourse the dominant question has been the treatment of the Chinese problem. Apart from this our relations with the powers have been happy.

The recent troubles in China spring from the antifeign agitation which for the past three years has gained strength in the northern provinces. Their origin lies deep in the character of the Chinese races and in the traditions of their Government. The Taiping rebellion and the opening of Chinese ports to foreign trade and settlement disturbed alike the homogeneity and the seclusion of China.

Meanwhile foreign activity made itself felt in all quarters, not alone on the coast, but along the great river arteries and in the remoter districts, carrying new ideas and introducing new associations among a primitive people which had pursued for centuries a national policy of isolation.

The telegraph and the railway spreading over their land, the steamers plying on their waterways, the merchant and the missionary penetrating year by year farther to the interior, became to the Chinese mind types of an alien invasion, changing the course of their national life and fraught with vague forebodings of disaster to their beliefs and their self-control.

For several years before the present troubles all the resources of foreign diplomacy, backed by moral demonstrations of the physical force of fleets and arms, have been needed to secure due respect for the treaty rights of foreigners and to obtain satisfaction from the responsible authorities for the sporadic outrages upon the persons and property of unoffending sojourners, which from time to time occurred at widely separated points in the northern provinces, as in the case of the outbreaks in Szechuen and Shantung.

Posting of antifeign placards became a daily occurrence, which the repeated reprobation of the imperial power failed to check or punish. These inflammatory appeals to the ignorance and superstition of the masses, mendacious and absurd in their accusations and deeply hostile in their spirit, could not but work cumulative harm. They aimed at no particular class of foreigners; they were impartial in attacking everything foreign.

An outbreak in Shantung, in which German missionaries were slain, was the too natural result of these malevolent teachings. The posting of seditious placards, exhorting to the utter destruction of foreigners and of every foreign thing, continued unrebuked. Hostile demonstrations toward the stranger gained strength by organization.

The sect commonly styled the Boxers developed greatly in the provinces north of the Yang-Tse, and with the collusion of many notable officials, including some in the immediate councils of the Throne itself, became alarmingly aggressive. No foreigner's life outside of the protected treaty ports was safe. No foreign interest was secure from spoliation.

The diplomatic representatives of the powers in Peking strove in vain to check this movement. Protest was followed by demand, and demand by renewed protest, to be met with perfunctory edicts from the Palace and evasive and futile assurances

from the Tsung-li-Yamen. The circle of the Boxer influence narrowed about Peking, and while nominally stigmatized as seditious, it was felt that its spirit pervaded the capital itself, that the imperial forces were imbued with its doctrines, and that the immediate counselors of the Empress Dowager were in full sympathy with the antiforeign movement.

The increasing gravity of the conditions in China and the imminence of peril to our own diversified interests in the empire, as well as to those of all the other treaty governments, were soon appreciated by this Government, causing it profound solicitude. The United States from the earliest days of foreign intercourse with China had followed a policy of peace, omitting no occasions to testify good-will, to further the extension of lawful trade, to respect the sovereignty of its Government, and to insure by all legitimate and kindly but earnest means the fullest measure of protection for the lives and property of our law-abiding citizens and for the exercise of their beneficent callings among the Chinese people.

Mindful of this, it was felt to be appropriate that our purposes should be pronounced in favor of such course as would hasten united action of the powers at Peking to promote the administrative reforms so greatly needed for strengthening the Imperial Government and maintaining the integrity of China, in which we believed the whole Western world to be alike concerned. To these ends I caused to be addressed to the several powers occupying territory and maintaining spheres of influence in China the circular proposals of 1899, inviting from them declarations of their intentions and views as to the desirability of the adoption of measures insuring the benefits of equality of treatment of all foreign trade throughout China.

With gratifying unanimity the responses coincided in this common policy, enabling me to see in the successful termination of these negotiations proof of the friendly spirit which animates the various powers interested in the untrammelled development of commerce and industry in the Chinese Empire as a source of vast benefit to the whole commercial world.

In this conclusion, which I had the gratification to announce as a completed engagement to the interested powers on March 20, 1900, I hopefully discerned a potential factor for the abatement of the distrust of foreign purposes which for a year past had appeared to inspire the policy of the Imperial Government, and for the effective exertion by it of power and authority to quell the critical antiforeign movement in the northern provinces most immediately influenced by the Manchu sentiment.

Seeking to testify confidence in the willingness and ability of the imperial administration to redress the wrongs and prevent the evils we suffered and feared, the marine guard, which had been sent to Peking in the autumn of 1899 for the protection of the legation, was withdrawn at the earliest practicable moment, and all pending questions were remitted, as far as we were concerned, to the ordinary resorts of diplomatic intercourse.

The Chinese Government proved, however, unable to check the rising strength of the Boxers, and appeared to be a prey to internal dissensions. In the unequal contest the antiforeign influences soon gained the ascendancy under the leadership of Prince Tuan. Organized armies of Boxers, with which the imperial forces affiliated, held the country between Peking and the coast, penetrated into Manchuria up to the Russian borders, and through their emissaries threatened a like rising throughout northern China.

Attacks upon foreigners, destruction of their property, and slaughter of native converts were reported from all sides. The Tsung-li-Yamen, already permeated with hostile sympathies, could make no effective response to the appeals of the legations. At this critical juncture, in the early spring of this year, a proposal was made by the other powers that a combined fleet should be assembled in Chinese waters as a moral demonstration, under cover of which to exact of the Chinese Government respect for foreign treaty rights and the suppression of the Boxers.

The United States, while not participating in the joint demonstration, promptly sent from the Philippines all ships that could be spared for service on the Chinese coast. A small force of marines was landed at Taku and sent to Peking for the protection of the American legation. Other powers took similar action, until some 400 men were assembled in the capital as legation guards.

Still the peril increased. The legations reported the development of the seditious movement in Peking and the need of increased provision for defense against it. While preparations were in progress for a larger expedition, to strengthen the legation guards and keep the railway open, an attempt of the foreign ships to make a landing at Taku was met by a fire from the Chinese forts. The forts were thereupon shelled by the foreign vessels, the American admiral taking no part in the attack, on the ground that we were not at war with China and that a hostile demonstration might consolidate the antiforeign elements and strengthen the Boxers to oppose the relieving column.

Two days later the Taku forts were captured after a sanguinary conflict. Severance of communication with Peking followed, and a combined force of additional guards, which was advancing to Peking by the Pei-Ho, was checked at Langfang. The isolation of the legations was complete.

The siege and the relief of the legations has passed into undying history. In all the stirring chapter which records the heroism of the devoted band, clinging to hope in the face of despair, and the undaunted spirit that led their relievers through battle and suffering to the goal, it is a memory of which my countrymen may be justly proud that the honor of our flag was maintained alike in the siege and the rescue, and that stout American hearts have again set high, in fervent emulation with true men of other race and language, the indomitable courage that ever strives for the cause of right and justice.

By June 19 the legations were cut off. An identical note from the Yamen ordered each minister to leave Peking, under a promised escort, within twenty-four hours. To gain time they replied, asking prolongation of the time, which was afterward granted, and requesting an interview with the Tsung-li-Yamen on the following day. No reply being received, on the morning of the 20th the German minister, Baron von Ketteler, set out for the Yamen to obtain a response, and on the way was murdered.

An attempt by the legation guard to recover his body was foiled by the Chinese. Armed forces turned out against the legations. Their quarters were surrounded and attacked. The mission compounds were abandoned, their inmates taking refuge in the British legation, where all the other legations and guards gathered for more effective defense. Four hundred persons were crowded in its narrow compass. Two thousand native converts were assembled in a near-by palace under protection of the foreigners. Lines of defense were strengthened, trenches dug, barricades raised, and

preparations made to stand a siege, which at once began.

From June 20 until July 17, writes Minister Conger, "there was scarcely an hour during which there was not firing upon some part of our lines and into some of the legations, varying from a single shot to a general and continuous attack along the whole line." Artillery was placed around the legations and on the overlooking palace walls, and thousands of 3-inch shot and shell were fired, destroying some buildings and damaging all. So thickly did the balls rain that, when the ammunition of the besieged ran low, five quarts of Chinese bullets were gathered in an hour in one compound and recast.

Attempts were made to burn the legations by setting neighboring houses on fire, but the flames were successfully fought off, although the Austrian, Belgian, Italian, and Dutch legations were then and subsequently burned. With the aid of the native converts, directed by the missionaries, to whose helpful cooperation Mr. Conger awards unstinted praise, the British legation was made a veritable fortress. The British minister, Sir Claude MacDonald, was chosen general commander of the defense, with the secretary of the American legation, Mr. E. G. Squiers, as chief of staff.

To save life and ammunition the besieged sparingly returned the incessant fire of the Chinese soldiery, fighting only to repel attack or make an occasional successful sortie for strategic advantage, such as that of 55 American, British, and Russian marines led by Capt. Myers, of the United States Marine Corps, which resulted in the capture of a formidable barricade on the wall that gravely menaced the American position. It was held to the last, and proved an invaluable acquisition, because commanding the water-gate through which the relief column entered.

During the siege the defenders lost 65 killed, 135 wounded, and 7 by disease—the last all children.

On July 14 the besieged had their first communication with the Tsung-li-Yamen, from whom a message came inviting to a conference, which was declined. Correspondence, however, ensued and a sort of armistice was agreed upon, which stopped the bombardment and lessened the rifle fire for a time. Even then no protection whatever was afforded, nor any aid given, save to send to the legations a small supply of fruit and three sacks of flour.

Indeed, the only communication had with the Chinese Government related to the occasional delivery or despatch of a telegram or to the demands of the Tsung-li-Yamen for the withdrawal of the legations to the coast under escort. Not only are the protestations of the Chinese Government that it protected and succored the legations positively contradicted, but irresistible proof accumulates that the attacks upon them were made by imperial troops, regularly uniformed, armed, and officered, belonging to the command of Jung-Lu, the imperial commander-in-chief. Decrees encouraging the Boxers, organizing them under prominent imperial officers, provisioning them, and even granting them large sums in the name of the Empress Dowager, are known to exist. Members of the Tsung-li-Yamen who counseled protection of the foreigners were beheaded. Even in the distant provinces men suspected of foreign sympathy were put to death, prominent among these being Chang-Yen-Hoon, formerly Chinese minister in Washington.

With the negotiation of the partial armistice of July 14, a proceeding which was doubtless pro-

moted by the representations of the Chinese envoy in Washington, the way was opened for the conveyance to Mr. Conger of a test message sent by the Secretary of State through the kind offices of Minister Wu-Ting-Fang. Mr. Conger's reply, despatched from Peking on July 18 through the same channel, afforded to the outside world the first tidings that the inmates of the legations were still alive and hoping for success.

This news stimulated the preparations for a joint relief expedition in numbers sufficient to overcome the resistance which for a month had been organizing between Taku and the capital. Reinforcements sent by all the cooperating governments were constantly arriving. The United States contingent, hastily assembled from the Philippines or despatched from this country, amounted to some 5,000 men, under the able command first of the lamented Col. Liscum and afterward of Gen. Chaffee.

Toward the end of July the movement began. A severe conflict followed at Tientsin, in which Col. Liscum was killed. The city was stormed and partly destroyed. Its capture afforded the base of operations from which to make the final advance, which began in the first days of August, the expedition being made up of Japanese, Russian, British, and American troops at the outset.

Another battle was fought and won at Yangtsun. Thereafter the disheartened Chinese troops offered little show of resistance. A few days later the important position of Ho-Si-Woo was taken. A rapid march brought the united forces to the populous city of Tung-Chow, which capitulated without a contest.

On Aug. 14 the capital was reached. After a brief conflict beneath the wall the relief column entered and the legations were saved. The United States soldiers, sailors, and marines, officers and men alike, in those distant climes and unusual surroundings, showed the same valor, discipline, and good conduct and gave proof of the same high degree of intelligence and efficiency which have distinguished them in every emergency.

The imperial family and the Government had fled a few days before. The city was without visible control. The remaining imperial soldiery had made on the night of the 13th a last attempt to exterminate the besieged, which was gallantly repelled. It fell to the occupying forces to restore order and organize a provisional administration.

Happily the acute disturbances were confined to the northern provinces. It is a relief to recall and a pleasure to record the loyal conduct of the viceroys and local authorities of the southern and eastern provinces. Their efforts were continuously directed to the pacific control of the vast populations under their rule and to the scrupulous observance of foreign treaty rights. At critical moments they did not hesitate to memorialize the Throne, urging the protection of the legations, the restoration of communication, and the assertion of the imperial authority against the subversive elements. They maintained excellent relations with the official representatives of foreign powers. To their kindly disposition is largely due the success of the consuls in removing many of the missionaries from the interior to places of safety. In this relation the action of the consuls should be highly commended. In Shantung and eastern Chi-Li the task was difficult, but, thanks to their energy and the cooperation of American and foreign naval commanders, hundreds of foreigners, including those of other nationalities than ours, were rescued from imminent peril.

The policy of the United States through all this trying period was clearly announced and scrupu-

lously carried out. A circular note to the powers dated July 3 proclaimed our attitude. Treating the condition in the north as one of virtual anarchy, in which the great provinces of the south and southeast had no share, we regarded the local authorities in the latter quarters as representing the Chinese people, with whom we sought to remain in peace and friendship. Our declared aims involved no war against the Chinese nation. We adhered to the legitimate office of rescuing the imperiled legation, obtaining redress for wrongs already suffered, securing wherever possible the safety of American life and property in China, and preventing a spread of the disorders or their recurrence.

As was then said, "the policy of the Government of the United States is to seek a solution which may bring about permanent safety and peace to China, preserve Chinese territorial and administrative entity, protect all rights guaranteed to friendly powers by treaty and international law, and safeguard for the world the principle of equal and impartial trade with all parts of the Chinese Empire."

Faithful to those professions which, as it proved, reflected the views and purposes of the other co-operating governments, all our efforts have been directed toward ending the anomalous situation in China by negotiations for a settlement at the earliest possible moment. As soon as the sacred duty of relieving our legation and its dependents was accomplished we withdrew from active hostilities, leaving our legation under an adequate guard in Peking as a channel of negotiation and settlement—a course adopted by others of the interested powers. Overtures of the empowered representatives of the Chinese Emperor have been considerably entertained.

The Russian proposition looking to the restoration of the imperial power in Peking has been accepted as in full consonance with our own desires, for we have held and hold that effective reparation for wrongs suffered and an enduring settlement that will make their recurrence impossible can best be brought about under an authority which the Chinese nation reverences and obeys. While so doing we forego no jot of our undoubted right to exact exemplary and deterrent punishment of the responsible authors and abettors of the criminal acts whereby we and other nations have suffered grievous injury.

For the real culprits, the evil counselors who have misled the imperial judgment and diverted the sovereign authority to their own guilty ends, full expiation becomes imperative within the national limits of retributive justice. Regarding this as the initial condition of an acceptable settlement between China and the powers, I said in my message of Oct. 18 to the Chinese Emperor:

"I trust that negotiations may begin so soon as we and the other offended governments shall be effectively satisfied of your Majesty's ability and power to treat with just sternness the principal offenders, who are doubly culpable, not alone toward the foreigners, but toward your Majesty, under whose rule the purpose of China to dwell in concord with the world had hitherto found expression in the welcome and protection assured to strangers."

Taking, as a point of departure, the imperial edict appointing Earl Li-Hung-Chang and Prince Ching plenipotentiaries to arrange a settlement, and the edict of Sept. 25, whereby certain high officials were designated for punishment, this Government has moved, in concert with the other powers, toward the opening of negotiations, which Mr. Conger, assisted by Mr. Rockhill, has been

authorized to conduct on behalf of the United States.

General bases of negotiation formulated by the Government of the French Republic have been accepted with certain reservations as to details, made necessary by our own circumstances, but, like similar reservations by other powers, open to discussion in the progress of the negotiations. The disposition of the Emperor's Government to admit liability for wrongs done to foreign governments and their nationals, and to act upon such additional designation of the guilty persons as the foreign ministers at Peking may be in a position to make, gives hope of a complete settlement of all questions involved, assuring foreign rights of residence and intercourse on terms of equality for all the world.

I regard as one of the essential factors of a durable adjustment the securing of adequate guarantees for liberty of faith, since insecurity of those natives who may embrace alien creeds is a scarcely less effectual assault upon the rights of foreign worship and teaching than would be the direct invasion thereof.

The matter of indemnity for our wronged citizens is a question of grave concern. Measured in money alone, a sufficient reparation may prove to be beyond the ability of China to meet. All the powers concur in emphatic disclaimers of any purpose of aggrandizement through the dismemberment of the empire. I am disposed to think that due compensation may be made in part by increased guarantees of security for foreign rights and immunities, and, most important of all, by the opening of China to the equal commerce of all the world. These views have been and will be earnestly advocated by our representatives.

The Government of Russia has put forward a suggestion, that in the event of protracted divergence of views in regard to indemnities the matter may be relegated to the Court of Arbitration at The Hague. I favorably incline to this, believing that high tribunal could not fail to reach a solution no less conducive to the stability and enlarged prosperity of China itself than immediately beneficial to the powers.

Ratifications of a treaty of extradition with the Argentine Republic were exchanged on June 2 last.

While the Austro-Hungarian Government has in the many cases that have been reported of the arrest of our naturalized citizens for alleged evasion of military service faithfully observed the provisions of the treaty and released such persons from military obligations, it has in some instances expelled those whose presence in the community of their origin was asserted to have a pernicious influence. Representations have been made against this course whenever its adoption has appeared unduly onerous.

We have been urgently solicited by Belgium to ratify the international convention of June, 1899, amendatory of the previous convention of 1890 in respect to the regulation of the liquor trade in Africa. Compliance was necessarily withheld, in the absence of the advice and consent of the Senate thereto. The principle involved has the cordial sympathy of this Government, which in the revisionary negotiations advocated more drastic measures, and I would gladly see its extension, by international agreement, to the restriction of the liquor traffic with all uncivilized peoples, especially in the western Pacific.

A conference will be held at Brussels Dec. 11, 1900, under the convention for the protection of industrial property concluded at Paris March 20, 1883, to which delegates from this country have

been appointed. Any lessening of the difficulties that our inventors encounter in obtaining patents abroad for their inventions and that our farmers, manufacturers, and merchants may have in the protection of their trade-marks is worthy of careful consideration, and your attention will be called to the results of the conference at the proper time.

In the interest of expanding trade between this country and South America, efforts have been made during the past year to conclude conventions with the southern republics for the enlargement of postal facilities. Two such agreements, signed with Bolivia on April 24, of which that establishing the money-order system is undergoing certain changes suggested by the Post-Office Department, have not yet been ratified by this Government. A treaty of extradition with that country, signed on the same day, is before the Senate.

A boundary dispute between Brazil and Bolivia over the territory of Acre is in a fair way of friendly adjustment, a protocol signed in December, 1899, having agreed on a definite frontier and provided for its demarcation by a joint commission.

Conditions in Brazil have weighed heavily on our export trade to that country, in marked contrast to the favorable conditions upon which Brazilian products are admitted into our markets. Urgent representations have been made to that Government on the subject, and some amelioration has been effected. We rely upon the reciprocal justice and good-will of that Government to assure to us a further improvement in our commercial relations.

The convention signed May 24, 1897, for the final settlement of claims left in abeyance upon the dissolution of the commission of 1893 was at length ratified by the Chilean Congress, and the supplemental commission has been organized.

It remains for the Congress to appropriate for the necessary expenses of the commission.

The insurrectionary movement which disturbed Colombia in the latter part of 1899 has been practically suppressed, although guerrillas still operate in some departments. The executive power of that republic changed hands in August last by the act of Vice-President Marroquin in assuming the reins of government during the absence of President San Clemente from the capital. The change met with no serious opposition, and, following the precedents in such cases, the United States minister entered into relations with the new de facto Government on Sept. 17.

It is gratifying to announce that the residual questions between Costa Rica and Nicaragua growing out of the award of President Cleveland in 1888 have been adjusted through the choice of an American engineer, Gen. E. P. Alexander, as umpire to run the disputed line. His task has been accomplished to the satisfaction of both contestants.

A revolution in the Dominican Republic toward the close of last year resulted in the installation of President Jimenez, whose government was formally recognized in January. Since then final payment has been made of the American claim in regard to the Ozama bridge.

The year of the exposition has been fruitful in occasions for displaying the good-will that exists between this country and France. This great competition brought together from every nation the best in natural productions, industry, science, and the arts, submitted in generous rivalry to a judgment made all the more searching because of that rivalry. The extraordinary increase of exportations from this country during the past three years and the activity with which our inventions

and wares had invaded new markets caused much interest to center upon the American exhibit, and every encouragement was offered in the way of space and facilities to permit of its being comprehensive as a whole and complete in every part.

It was, however, not an easy task to assemble exhibits that could fitly illustrate our diversified resources and manufactures. Singularly enough our national prosperity lessened the incentive to exhibit. The dealer in raw materials knew that the user must come to him; the great factories were contented with the phenomenal demand for their output, not alone at home, but also abroad, where merit had already won a profitable trade.

Appeals had to be made to the patriotism of exhibitors to induce them to incur outlays promising no immediate return. This was especially the case where it became needful to complete an industrial sequence or illustrate a class of processes. One manufacturer after another had to be visited and importuned, and at times, after a promise to exhibit in a particular section had been obtained, it would be withdrawn, owing to pressure of trade orders, and a new quest would have to be made.

The installation of exhibits, too, encountered many obstacles and involved unexpected cost. The exposition was far from ready at the date fixed for its opening. The French transportation lines were congested with offered freight. Belated goods had to be hastily installed in unfinished quarters with whatever labor could be obtained in the prevailing confusion. Nor was the task of the commission lightened by the fact that, owing to the scheme of classification adopted, it was impossible to have the entire exhibit of any one country in the same building or more than one group of exhibits in the same part of any building. Our installations were scattered on both sides of the Seine and in widely remote suburbs of Paris, so that additional assistants were needed for the work of supervision and arrangement.

Despite all these drawbacks the contribution of the United States was not only the largest foreign display, but was among the earliest in place and the most orderly in arrangement. Our exhibits were shown in 101 out of 121 classes, and more completely covered the entire classification than those of any other nation. In total number they ranked next after those of France, and the attractive form in which they were presented secured general attention.

A criterion of the extent and success of our participation and of the thoroughness with which our exhibitors were organized is seen in the awards granted to American exhibitors by the international jury—namely, grand prizes, 240; gold medals, 597; silver medals, 776; bronze medals, 541; and honorable mentions, 322—2,476 in all, being the greatest total number given to the exhibit of any exhibiting nation, as well as the largest number in each grade. This significant recognition of merit in competition with the chosen exhibits of all other nations and at the hands of juries almost wholly made up of representatives of France and other competing countries is not only most gratifying, but is especially valuable, since it sets us to the front in international questions of supply and demand, while the large proportion of awards in the classes of art and artistic manufactures afforded unexpected proof of the stimulation of national culture by the prosperity that flows from natural productiveness joined to industrial excellence.

Apart from the exposition several occasions for showing international good-will occurred. The inauguration in Paris of the Lafayette monument,

presented by the school children of the United States, and the designing of a commemorative coin by our mint and the presentation of the first piece struck to the President of the republic, were marked by appropriate ceremonies, and the Fourth of July was especially observed in the French capital.

Good-will prevails in our relations with the German Empire. An amicable adjustment of the long-pending question of the admission of our life-insurance companies to do business in Prussia has been reached. One of the principal companies has already been readmitted and the way is opened for the others to share the privilege.

The settlement of the Samoan problem, to which I adverted in my last message, has accomplished good results. Peace and contentment prevail in the islands, especially in Tutuila, where a convenient administration that has won the confidence and esteem of the kindly disposed natives has been organized under the direction of the commander of the United States naval station at Pago-Pago.

An imperial meat-inspection law has been enacted for Germany. While it may simplify the inspections, it prohibits certain products heretofore admitted. There is still great uncertainty as to whether our well-nigh extinguished German trade in meat products can revive under its new burdens. Much will depend upon regulations not yet promulgated, which we confidently hope will be free from the discriminations which attended the enforcement of the old statutes.

The remaining link in the new lines of direct telegraphic communication between the United States and the German Empire has recently been completed, affording a gratifying occasion for exchange of friendly congratulations with the German Emperor.

Our friendly relations with Great Britain continue. The war in southern Africa introduced important questions. A condition unusual in international wars was presented in that while one belligerent had control of the seas, the other had no ports, shipping, or direct trade, but was only accessible through the territory of a neutral. Vexatious questions arose through Great Britain's action in respect to neutral cargoes, not contraband in their own nature, shipped to Portuguese South Africa, on the score of probable or suspected ultimate destination to the Boer states.

Such consignments in British ships, by which alone direct trade is kept up between our ports and southern Africa, were seized in application of a municipal law prohibiting British vessels from trading with the enemy without regard to any contraband character of the goods, while cargoes shipped to Delagoa Bay in neutral bottoms were arrested on the ground of alleged destination to the enemy's country. Appropriate representations on our part resulted in the British Government agreeing to purchase outright all such goods shown to be the actual property of American citizens, thus closing the incident to the satisfaction of the immediately interested parties, although, unfortunately, without a broad settlement of the question of a neutral's right to send goods not contraband *per se* to a neutral port adjacent to a belligerent area.

The work of making certain provisional boundary points, for convenience of administration, around the head of Lynn Canal, in accordance with the temporary arrangement of October, 1899, was completed by a joint survey in July last. The *modus vivendi* has so far worked without friction, and the Dominion Government has provided rules and regulations for securing to our

citizens the benefit of the reciprocal stipulation that the citizens or subjects of either power found by that arrangement within the temporary jurisdiction of the other shall suffer no diminution of the rights and privileges they have hitherto enjoyed. But however necessary such an expedient may have been to tide over the grave emergencies of the situation, it is at best but an unsatisfactory makeshift which should not be suffered to delay the speedy and complete establishment of the frontier line to which we are entitled under the Russo-American treaty for the cession of Alaska.

In this relation I may refer again to the need of delicately marking the Alaskan boundary where it follows the one hundred and forty-first meridian. A convention to that end has been before the Senate for some two years, but as no action has been taken I contemplate negotiating a new convention for a joint determination of the meridian by telegraphic observations. These, it is believed, will give more accurate and unquestionable results than the sidereal methods heretofore independently followed, which, as is known, proved discrepant at several points on the line, although not varying at any place more than 700 feet.

The pending claim of R. H. May against the Guatemalan Government has been settled by arbitration, Mr. George F. B. Jenner, British minister at Guatemala, who was chosen as sole arbitrator, having awarded \$143,750.73 in gold to the claimant.

Various American claims against Haiti have been or are being advanced to the resort of arbitration.

As the result of negotiations with the Government of Honduras in regard to the indemnity demanded for the murder of Frank H. Pears in Honduras, that Government has paid \$10,000 in settlement of the claim of the heirs.

The assassination of King Humbert called forth sincere expressions of sorrow from this Government and people, and occasion was fitly taken to testify to the Italian nation the high regard here felt for the memory of the lamented ruler.

In my last message I referred at considerable length to the lynching of five Italians at Tallulah. Notwithstanding the efforts of the Federal Government, the production of evidence tending to inculpate the authors of this grievous offense against our civilization, and the repeated inquests set on foot by the authorities of the State of Louisiana, no punishments have followed. Successive grand juries have failed to indict. The representations of the Italian Government in the face of this miscarriage have been most temperate and just.

Setting the principle at issue high above all consideration of merely pecuniary indemnification, such as this Government made in the three previous cases, Italy has solemnly invoked the pledges of existing treaty and asked that the justice to which she is entitled shall be meted in regard to her unfortunate countrymen in our territory with the same full measure she herself would give to any American were his reciprocal treaty rights contemned.

I renew the urgent recommendations I made last year that the Congress appropriately confer upon the Federal courts jurisdiction in this class of international cases where the ultimate responsibility of the Federal Government may be involved, and I invite action upon the bills to accomplish this which were introduced in the Senate and House. It is incumbent upon us to remedy the statutory omission which had led, and may again lead, to such untoward results. I have

pointed out the necessity and the precedent for legislation of this character. Its enactment is a simple measure of previsory justice toward the nations with which we as a sovereign equal make treaties requiring reciprocal observance.

While the Italian Government naturally regards such action as the primary and, indeed, the most essential element in the disposal of the Tallulah incident, I advise that, in accordance with precedent and in view of the improbability of that particular case being reached by the bill now pending, Congress make gracious provision for indemnity to the Italian sufferers in the same form and proportion as heretofore.

In my inaugural address I referred to the general subject of lynching in these words:

"Lynching must not be tolerated in a great and civilized country like the United States; courts, not mobs, must execute the penalties of the law. The preservation of public order, the right of discussion, the integrity of courts, and the orderly administration of justice must continue forever the rock of safety upon which our Government securely rests."

This I most urgently reiterate and again invite the attention of my countrymen to this reproach upon our civilization.

The closing year has witnessed a decided strengthening of Japan's relations to other states. The development of her independent, judicial, and administrative functions under the treaties which took effect July 17, 1899, has proceeded without international friction, showing the competence of the Japanese to hold a foremost place among modern peoples.

In the treatment of the difficult Chinese problems Japan has acted in harmonious concert with the other powers, and her generous cooperation materially aided in the joint relief of the beleaguered legations in Peking and in bringing about an understanding preliminary to a settlement of the issues between the powers and China. Japan's declarations in favor of the integrity of the Chinese Empire and the conservation of open world trade therewith have been frank and positive. As a factor for promoting the general interests of peace, order, and fair commerce in the far East, the influence of Japan can hardly be overestimated.

The valuable aid and kindly courtesies extended by the Japanese Government and naval officers to the battle-ship Oregon are gratefully appreciated.

Complaint was made last summer of the discriminatory enforcement of a bubonic quarantine against Japanese on the Pacific coast and of interference with their travel in California and Colorado under the health laws of those States. The latter restrictions have been adjudged by a Federal court to be unconstitutional. No recurrence of either cause of complaint is apprehended.

No noteworthy incident has occurred in our relations with our important southern neighbor. Commercial intercourse with Mexico continues to thrive, and the two governments neglect no opportunity to foster their mutual interests in all practicable ways.

Pursuant to the declaration of the Supreme Court that the awards of the late joint commission in the La Abra and Weil claims were obtained through fraud, the sum awarded in the first case, \$403,030.08, has been returned to Mexico, and the amount of the Weil award will be returned in like manner.

A convention indefinitely extending the time for the labors of the United States and Mexican International (Water) Boundary Commission has been signed.

It is with satisfaction that I am able to an-

nounce the formal notification at The Hague, on Sept. 4, of the deposit of ratifications of the Convention for the Pacific Settlement of International Disputes by sixteen powers—namely, the United States, Austria, Belgium, Denmark, England, France, Germany, Italy, Persia, Portugal, Roumania, Russia, Siam, Spain, Sweden and Norway, and the Netherlands. Japan also has since ratified the convention.

The Administrative Council of the Permanent Court of Arbitration has been organized, and has adopted rules of order and a constitution for the International Arbitration Bureau. In accordance with Article XXIII of the convention, providing for the appointment by each signatory power of persons of known competency in questions of international law as arbitrators, I have appointed as members of this court Hon. Benjamin Harrison, of Indiana, ex-President of the United States; Hon. Melville W. Fuller, of Illinois, Chief Justice of the United States; Hon. John W. Griggs, of New Jersey, Attorney-General of the United States, and Hon. George Gray, of Delaware, a judge of the circuit court of the United States.

As an incident of the brief revolution in the Mosquito district of Nicaragua early in 1899, the insurgents forcibly collected from American merchants duties upon imports. On the restoration of order the Nicaraguan authorities demanded a second payment of such duties on the ground that they were due to the titular Government and that their diversion had aided the revolt.

This position was not accepted by us. After prolonged discussion a compromise was effected under which the amount of the second payments was deposited with the British consul at San Juan del Norte in trust until the two governments should determine whether the first payments had been made under compulsion to a *de facto* authority. Agreement as to this was not reached, and the point was waived by the act of the Nicaraguan Government in requesting the British consul to return the deposits to the merchants.

Menacing differences between several of the Central American states have been accommodated, our ministers rendering good offices toward an understanding.

The all-important matter of an interoceanic canal has assumed a new phase. Adhering to its refusal to reopen the question of the forfeiture of the contract of the Maritime Canal Company, which was terminated for alleged non-execution in October, 1899, the Government of Nicaragua has since supplemented that action by declaring the so-styled Eyre-Cragin option void for non-payment of the stipulated advance. Protests in relation to these acts have been filed in the State Department and are under consideration. Deeming itself relieved from existing engagements, the Nicaraguan Government shows a disposition to deal freely with the canal question either in the way of negotiations with the United States or by taking measures to promote the waterway.

Overtures for a convention to effect the building of a canal under the auspices of the United States are under consideration. In the meantime, the views of the Congress upon the general subject, in the light of the report of the commission appointed to examine the comparative merits of the various trans-Isthmian ship-canal projects, may be awaited.

I commend to the early attention of the Senate the convention with Great Britain to facilitate the construction of such a canal and to remove any objection which might arise out of the convention commonly called the Clayton-Bulwer Treaty.

The long-standing contention with Portugal, growing out of the seizure of the Delagoa Bay Railway, has been at last determined by a favorable award of the tribunal of arbitration at Berne, to which it was submitted. The amount of the award, which was deposited in London awaiting arrangements by the governments of the United States and Great Britain for its disposal, has recently been paid over to the two governments.

A lately signed convention of extradition with Peru as amended by the Senate has been ratified by the Peruvian Congress.

Another illustration of the policy of this Government to refer international disputes to impartial arbitration is seen in the agreement reached with Russia to submit the claims on behalf of American sealing vessels seized in Bering Sea to determination by Mr. T. M. C. Asser, a distinguished statesman and jurist of the Netherlands.

Thanks are due to the Imperial Russian Government for the kindly aid rendered by its authorities in eastern Siberia to American missionaries fleeing from Manchuria.

Satisfactory progress has been made toward the conclusion of a general treaty of friendship and intercourse with Spain, in replacement of the old treaty, which passed into abeyance by reason of the late war. A new convention of extradition is approaching completion, and I should be much pleased were a commercial arrangement to follow. I feel that we should not suffer to pass any opportunity to reaffirm the cordial ties that existed between us and Spain from the time of our earliest independence, and to enhance the mutual benefits of that commercial intercourse which is natural between the two countries.

By the terms of the treaty of peace the line bounding the ceded Philippine group in the southwest failed to include several small islands lying westward of the Sulus, which have always been recognized as under Spanish control. The occupation of Sibutu and Cagayan Sulu by our naval forces elicited a claim on the part of Spain, the essential equity of which could not be gainsaid. In order to cure the defect of the treaty by removing all possible ground of future misunderstanding respecting the interpretation of its third article, I directed the negotiation of a supplementary treaty, which will be forthwith laid before the Senate, whereby Spain quits all title and claim of title to the islands named as well as to any and all islands belonging to the Philippine Archipelago lying outside the lines described in said third article, and agrees that all such islands shall be comprehended in the cession of the archipelago as fully as if they had been expressly included within those lines. In consideration of this cession the United States is to pay to Spain the sum of \$100,000.

A bill is now pending to effect the recommendation made in my last annual message that appropriate legislation be had to carry into execution Article VII of the treaty of peace with Spain, by which the United States assumed the payment of certain claims for indemnity of its citizens against Spain. I ask that action be taken to fulfil this obligation.

The King of Sweden and Norway has accepted the joint invitation of the United States, Germany, and Great Britain to arbitrate claims growing out of losses sustained in the Samoan Islands in the course of military operations made necessary by the disturbances in 1899.

Our claims upon the Government of the Sultan for reparation for injuries suffered by American citizens in Armenia and elsewhere give promise of early and satisfactory settlement. His Majesty's

good disposition in this regard has been evinced by the issuance of an irade for rebuilding the American college at Harpoot.

The failure of action by the Senate at its last session upon the commercial conventions then submitted for its consideration and approval, although caused by the great pressure of other legislative business, has caused much disappointment to the agricultural and industrial interests of the country, which hoped to profit by their provisions. The conventional periods for their ratification having expired, it became necessary to sign additional articles extending the time for that purpose. This was requested on our part, and the other governments interested have concurred with the exception of one convention, in respect to which no formal reply has been received.

Since my last communication to the Congress on this subject special commercial agreements under the third section of the tariff act have been proclaimed with Portugal, with Italy, and with Germany. Commercial conventions under the general limitations of the fourth section of the same act have been concluded with Nicaragua, with Ecuador, with the Dominican Republic, with Great Britain on behalf of the island of Trinidad, and with Denmark on behalf of the island of St. Croix. These will be early communicated to the Senate. Negotiations with other governments are in progress for the improvement and security of our commercial relations.

The policy of reciprocity so manifestly rests upon the principles of international equity and has been so repeatedly approved by the people of the United States that there ought to be no hesitation in either branch of the Congress in giving to it full effect.

This Government desires to preserve the most just and amicable commercial relations with all foreign countries, unmoved by the industrial rivalries necessarily developed in the expansion of international trade. It is believed that the foreign governments generally entertain the same purpose, although in some instances there are clamorous demands upon them for legislation specifically hostile to American interests. Should these demands prevail I shall communicate with the Congress with the view of advising such legislation as may be necessary to meet the emergency.

The exposition of the resources and products of the Western Hemisphere to be held at Buffalo next year promises important results not only for the United States but for the other participating countries. It is gratifying that the Latin-American states have evinced the liveliest interest, and the fact that an international American congress will be held in the city of Mexico while the exposition is in progress encourages the hope of a larger display at Buffalo than might otherwise be practicable. The work of preparing an exhibit of our national resources is making satisfactory progress under the direction of different officials of the Federal Government, and the various States of the Union have shown a disposition toward the most liberal participation in the enterprise.

The Bureau of the American Republics continues to discharge, with the happiest results, the important work of promoting cordial relations between the United States and the Latin-American countries, all of which are now active members of the International Union. The Bureau has been instrumental in bringing about the agreement for another international American congress, which is to meet in the city of Mexico in October, 1901. The bureau's future for another

term of ten years is assured by the international compact, but the congress will doubtless have much to do with shaping new lines of work and a general policy. Its usefulness to the interests of Latin-American trade is widely appreciated, and shows a gratifying development.

The practical utility of the consular service in obtaining a wide range of information as to the industries and commerce of other countries, and the opportunities thereby afforded for introducing the sale of our goods, have kept steadily in advance of the notable expansion of our foreign trade, and abundant evidence has been furnished, both at home and abroad, of the fact that the consular reports, including many from our diplomatic representatives, have to a considerable extent pointed out ways and means of disposing of a great variety of manufactured goods which otherwise might not have found sale abroad.

Testimony of foreign observers to the commercial efficiency of the consular corps seems to be conclusive, and our own manufacturers and exporters highly appreciate the value of the services rendered, not only in the printed reports, but also in the individual efforts of consular officers to promote American trade. An increasing part of the work of the Bureau of Foreign Commerce, whose primary duty it is to compile and print the reports, is to answer inquiries from trade organizations, business houses, etc., as to conditions in various parts of the world, and, notwithstanding the smallness of the force employed, the work has been so systematized that responses are made with such promptitude and accuracy as to elicit flattering encomiums. The experiment of printing the consular reports daily for immediate use by trade bodies, exporters, and the press, which was begun in January, 1898, continues to give general satisfaction.

It is gratifying to be able to state that the surplus revenues for the fiscal year ended June 30, 1900, were \$79,527,060.18. For the six preceding years we had only deficits, the aggregate of which from 1894 to 1899, inclusive, amounted to \$283,022,991.14. The receipts for the year from all sources, exclusive of postal revenues, aggregated \$567,240,851.89, and expenditures for all purposes, except for the administration of the postal department, aggregated \$487,713,791.71. The receipts from customs were \$233,164,871.16, an increase over the preceding year of \$27,036,389.41. The receipts from internal revenue were \$295,327,926.76, an increase of \$21,890,765.25 over 1899. The receipts from miscellaneous sources were \$38,748,053.97, as against \$36,394,976.92 for the previous year.

It is gratifying also to note that during the year a considerable reduction is shown in the expenditures of the Government. The War Department expenditures for the fiscal year 1900 were \$134,774,767.78, a reduction of \$95,066,486.69 over those of 1899. In the Navy Department the expenditures were \$55,953,077.72 for the year 1900, as against \$63,942,104.25 for the preceding year, a decrease of \$7,989,026.53. In the expenditures on account of Indians there was a decrease in 1900 over 1899 of \$2,630,604.38; and in the civil and miscellaneous expenses for 1900 there was a reduction of \$13,418,065.74.

Because of the excess of revenues over expenditures the Secretary of the Treasury was enabled to apply bonds and other securities to the sinking-fund to the amount of \$56,544,556.06. The details of the sinking-fund are set forth in the report of the Secretary of the Treasury, to which I invite attention. The Secretary of the Treasury estimates that the receipts for the current fiscal

year will aggregate \$580,000,000 and the expenditures \$500,000,000, leaving an excess of revenues over expenditures of \$80,000,000. The present condition of the Treasury is one of undoubted strength. The available cash balance Nov. 30 was \$139,303,794.50. Under the form of statement prior to the financial law of March 14 last there would have been included in the statement of available cash gold coin and bullion held for the redemption of United States notes.

If this form were pursued, the cash balance, including the present gold reserve of \$150,000,000, would be \$289,303,794.50. Such balance Nov. 30, 1899, was \$296,495,301.55. In the general fund, which is wholly separate from the reserve and trust funds, there was on Nov. 30, \$70,090,073.15 in gold coin and bullion, to which should be added \$22,957,300 in gold certificates subject to issue, against which there is held in the Division of Redemption gold coin and bullion, making a total holding of free gold amounting to \$93,047,373.15.

It will be the duty as I am sure it will be the disposition of the Congress to provide whatever further legislation is needed to insure the continued parity under all conditions between our two forms of metallic money, silver and gold.

Our surplus revenues have permitted the Secretary of the Treasury since the close of the fiscal year to call in the funded loan of 1891 continued at 2 per cent., in the sum of \$25,364,500. To and including Nov. 30, \$23,458,100 of these bonds have been paid. This sum, together with the amount which may accrue from further redemptions under the call, will be applied to the sinking-fund.

The law of March 14, 1900, provided for refunding into 2-per-cent. thirty-year bonds, payable, principal and interest, in gold coin of the present standard value, that portion of the public debt represented by the 3-per-cent. bonds of 1908, the 4-per-cents. of 1907, and the 5-per-cents. of 1904, of which there was outstanding at the date of said law \$839,149,930. The holders of the old bonds presented them for exchange between March 14 and Nov. 30 to the amount of \$364,943,750. The net saving to the Government on these transactions aggregates \$9,106,166.

Another effect of the operation, as stated by the Secretary, is to reduce the charge upon the Treasury for the payment of interest from the dates of refunding to Feb. 1, 1904, by the sum of more than \$7,000,000 annually. From Feb. 1, 1904 to July 1, 1907, the annual interest charge will be reduced by the sum of more than \$5,000,000, and for the thirteen months ending Aug. 1, 1908, by about \$1,000,000. The full details of the refunding are given in the annual report of the Secretary of the Treasury.

The beneficial effect of the financial act of 1900, so far as it relates to a modification of the national banking act, is already apparent. The provision for the incorporation of national banks with a capital of not less than \$25,000 in places not exceeding 3,000 inhabitants has resulted in the extension of banking facilities to many small communities hitherto unable to provide themselves with banking institutions under the national system. There were organized from the enactment of the law up to and including Nov. 30, 369 national banks, of which 266 were with capital less than \$50,000, and 103 with capital of \$50,000 or more.

It is worthy of mention that the greater number of banks being organized under the new law are in sections where the need of banking facilities has been most pronounced. Iowa stands first, with 30 banks of the smaller class, while Texas, Oklahoma, Indian Territory, and the middle and

Western sections of the country have also availed themselves largely of the privileges under the new law.

A large increase in national-bank note circulation has resulted from the provision of the act which permits national banks to issue circulating notes to the par value of the United States bonds deposited as security instead of only 90 per cent. thereof, as heretofore. The increase in circulating notes from March 14 to Nov. 30 is \$77,-889,570.

The party in power is committed to such legislation as will better make the currency responsive to the varying needs of business at all seasons and in all sections.

Our foreign trade shows a remarkable record of commercial and industrial progress. The total of imports and exports for the first time in the history of the country exceeded \$2,000,000,000. The exports are greater than they have ever been before, the total for the fiscal year 1900 being \$1,394,483,082, an increase over 1899 of \$167,459,780, an increase over 1898 of \$163,000,752, over 1897 of \$343,489,526, and greater than 1896 by \$511,876,144.

The growth of manufactures in the United States is evidenced by the fact that exports of manufactured products largely exceed those of any previous year, their value for 1900 being \$433,-851,756, against \$339,592,146 in 1899, an increase of 28 per cent.

Agricultural products were also exported during 1900 in greater volume than in 1899, the total for the year being \$835,858,123, against \$784,776,142 in 1899.

The imports for the year amounted to \$849,941,-184, an increase over 1899 of \$152,792,695. This increase is largely in materials for manufacture, and is in response to the rapid development of manufacturing in the United States. While there was imported for use in manufactures in 1900 material to the value of \$79,768,972 in excess of 1899, it is reassuring to observe that there is a tendency toward decrease in the importation of articles manufactured ready for consumption, which in 1900 formed 15.17 per cent. of the total imports, against 15.54 per cent. in 1899 and 21.09 per cent. in 1896.

I recommend that the Congress at its present session reduce the internal-revenue taxes imposed to meet the expenses of the war with Spain in the sum of \$30,000,000. This reduction should be secured by the remission of those taxes which experience has shown to be the most burdensome to the industries of the people.

I specially urge that there be included in whatever reduction is made the legacy tax on bequests for public uses of a literary, educational, or charitable character.

American vessels during the past three years have carried about 9 per cent. of our exports and imports. Foreign ships should carry the least, not the greatest, part of American trade. The remarkable growth of our steel industries, the progress of shipbuilding for the domestic trade, and our steadily maintained expenditures for the navy have created an opportunity to place the United States in the first rank of commercial maritime powers.

Besides realizing a proper national aspiration this will mean the establishment and healthy growth along all our coasts of a distinctive national industry, expanding the field for the profitable employment of labor and capital. It will increase the transportation facilities, and reduce freight charges on the vast volume of products brought from the interior to the seaboard for ex-

port, and will strengthen an arm of the national defense upon which the founders of the Government and their successors have relied. In again urging immediate action by the Congress on measures to promote American shipping and foreign trade, I direct attention to the recommendations on the subject in previous messages, and particularly to the opinion expressed in the message of 1899:

"I am satisfied the judgment of the country favors the policy of aid to our merchant marine, which will broaden our commerce and markets and upbuild our sea-carrying capacity for the products of agriculture and manufacture, which, with the increase of our navy, mean more work and wages to our countrymen, as well as a safeguard to American interests in every part of the world."

The attention of the Congress is invited to the recommendation of the Secretary of the Treasury in his annual report for legislation in behalf of the revenue-cutter service, and favorable action is urged.

In my last annual message to the Congress I called attention to the necessity for early action to remedy such evils as might be found to exist in connection with combinations of capital organized into trusts, and again invite attention to my discussion of the subject at that time, which concluded with these words:

"It is apparent that uniformity of legislation upon this subject in the several States is much to be desired. It is to be hoped that such uniformity, founded in a wise and just discrimination between what is injurious and what is useful and necessary in business operations, may be obtained, and that means may be found for the Congress, within the limitations of its constitutional power, so to supplement an effective code of State legislation as to make a complete system of laws throughout the United States adequate to compel a general observance of the salutary rules to which I have referred.

"The whole question is so important and far-reaching that I am sure no part of it will be lightly considered, but every phase of it will have the studied deliberation of the Congress, resulting in wise and judicious action."

Restraint upon such combinations as are injurious and which are within Federal jurisdiction should be promptly applied by the Congress.

In my last annual message I dwelt at some length upon the condition of affairs in the Philippines. While seeking to impress upon you that the grave responsibility of the future government of those islands rests with the Congress of the United States, I abstained from recommending at that time a specific and final form of government for the territory actually held by the United States forces and in which as long as insurrection continues the military arm must necessarily be supreme. I stated my purpose, until the Congress shall have made the formal expression of its will, to use the authority vested in me by the Constitution and the statutes to uphold the sovereignty of the United States in those distant islands as in all other places where our flag rightfully floats, placing, to that end, at the disposal of the army and navy all the means which the liberality of the Congress and the people have provided. No contrary expression of the will of the Congress having been made, I have steadfastly pursued the purpose so declared, employing the civil arm as well toward the accomplishment of pacification and the institution of local governments within the lines of authority and law.

Progress in the hoped-for direction has been fa-

vorable. Our forces have successfully controlled the greater part of the islands, overcoming the organized forces of the insurgents and carrying order and administrative regularity to all quarters. What opposition remains is for the most part scattered, obeying no concerted plan of strategic action, operating only by the methods common to the traditions of guerrilla warfare, which, while ineffective to alter the general control now established, are still sufficient to beget insecurity among the populations that have felt the good results of our control and thus delay the conferment upon them of the fuller measures of local self-government, of education, and of industrial and agricultural development which we stand ready to give to them.

By the spring of this year the effective opposition of the dissatisfied Tagals to the authority of the United States was virtually ended, thus opening the door for the extension of a stable administration over much of the territory of the archipelago. Desiring to bring this about, I appointed in March last a civil commission composed of the Hon. William H. Taft, of Ohio; Prof. Dean C. Worcester, of Michigan; the Hon. Luke I. Wright, of Tennessee; the Hon. Henry C. Ide, of Vermont; and Prof. Bernard Moses, of California. The aims of their mission and the scope of their authority are clearly set forth in my instructions of April 7, 1900, addressed to the Secretary of War to be transmitted to them:

"In the message transmitted to the Congress on the 5th of December, 1899, I said, speaking of the Philippine Islands: 'As long as the insurrection continues the military arm must necessarily be supreme. But there is no reason why steps should not be taken from time to time to inaugurate governments essentially popular in their form as fast as territory is held and controlled by our troops. To this end I am considering the advisability of the return of the commission, or such of the members thereof as can be secured, to aid the existing authorities and facilitate this work throughout the islands.'

"To give effect to the intention thus expressed, I have appointed Hon. William H. Taft, of Ohio; Prof. Dean C. Worcester, of Michigan; Hon. Luke I. Wright, of Tennessee; Hon. Henry C. Ide, of Vermont; and Prof. Bernard Moses, of California, commissioners to the Philippine Islands to continue and perfect the work of organizing and establishing civil government already commenced by the military authorities, subject in all respects to any laws which the Congress may hereafter enact.

"The commissioners named will meet and act as a board, and the Hon. William H. Taft is designated as president of the board. It is probable that the transfer of authority from military commanders to civil officers will be gradual and will occupy a considerable period. Its successful accomplishment and the maintenance of peace and order in the meantime will require the most perfect cooperation between the civil and military authorities in the island, and both should be directed during the transition period by the same executive department. The commission will therefore report to the Secretary of War, and all their action will be subject to your approval and control.

"You will instruct the commission to proceed to the city of Manila, where they will make their principal office, and to communicate with the military governor of the Philippine Islands, whom you will at the same time direct to render to them every assistance within his power in the performance of their duties. Without hampering them by too specific instructions, they should in general be

enjoined, after making themselves familiar with the conditions and needs of the country, to devote their attention in the first instance to the establishment of municipal governments, in which the natives of the islands, both in the cities and in the rural communities, shall be afforded the opportunity to manage their own local affairs to the fullest extent of which they are capable and subject to the least degree of supervision and control which a careful study of their capacities and observation of the workings of native control show to be consistent with the maintenance of law, order, and loyalty.

"The next subject in order of importance should be the organization of government in the larger administrative divisions corresponding to counties, departments, or provinces, in which the common interests of many or several municipalities falling within the same tribal lines, or the same natural geographical limits, may best be subserved by a common administration. Whenever the commission is of the opinion that the condition of affairs in the islands is such that the central administration may safely be transferred from military to civil control they will report that conclusion to you, with their recommendations as to the form of central government to be established for the purpose of taking over the control.

"Beginning with the 1st day of September, 1900, the authority to exercise, subject to my approval, through the Secretary of War, that part of the power of government in the Philippine Islands which is of a legislative nature is to be transferred from the military governor of the islands to this commission, to be thereafter exercised by them in the place and stead of the military governor, under such rules and regulations as you shall prescribe, until the establishment of the civil central government for the islands contemplated in the last foregoing paragraph, or until Congress shall otherwise provide. Exercise of this legislative authority will include the making of rules and orders, having the effect of law, for the raising of revenue by taxes, customs duties, and imposts; the appropriation and expenditure of public funds of the islands; the establishment of an educational system throughout the islands; the establishment of a system to secure an efficient civil service; the organization and establishment of courts; the organization and establishment of municipal and departmental governments, and all other matters of a civil nature for which the military governor is now competent to provide by rules or orders of a legislative character.

"The commission will also have power during the same period to appoint to office such officers under the judicial, educational, and civil service systems and in the municipal and departmental governments as shall be provided for. Until the complete transfer of control the military governor will remain the chief executive head of the government of the islands, and will exercise the executive authority now possessed by him and not herein expressly assigned to the commission, subject, however to the rules and orders enacted by the commission in the exercise of the legislative powers conferred upon them. In the meantime the municipal and departmental governments will continue to report to the military governor and be subject to his administrative supervision and control, under your direction, but that supervision and control will be confined within the narrowest limits consistent with the requirement that the powers of government in the municipalities and departments shall be honestly and effectively exercised and that law and order and individual freedom shall be maintained.

"All legislative rules and orders, establishments of government, and appointments to office by the commission will take effect immediately, or at such times as they shall designate, subject to your approval and action upon the coming in of the commission's reports, which are to be made from time to time as their action is taken. Wherever civil governments are constituted under the direction of the commission such military posts, garrisons, and forces will be continued for the suppression of insurrection and brigandage and the maintenance of law and order as the military commander shall deem requisite, and the military forces shall be at all times subject, under his orders, to the call of the civil authorities for the maintenance of law and order and the enforcement of their authority.

"In the establishment of municipal governments the commission will take as the basis of their work the governments established by the military governor under his order of Aug. 8, 1899, and under the report of the board constituted by the military governor by his order of Jan. 29, 1900, to formulate and report a plan of municipal government, of which his Honor Cayetano Arellano, president of the Audiencia, was chairman, and they will give to the conclusions of that board the weight and consideration which the high character and distinguished abilities of its members justify.

"In the constitution of departmental or provincial governments they will give especial attention to the existing government of the island of Negros, constituted, with the approval of the people of that island, under the order of the military governor of July 22, 1899, and after verifying, so far as it may be practicable, the reports of the successful working of that government, they will be guided by the experience thus acquired so far as it may be applicable to the condition existing in other portions of the Philippines. They will avail themselves, to the fullest degree practicable, of the conclusions reached by the previous commission to the Philippines.

"In the distribution of powers among the governments organized by the commission, the presumption is always to be in favor of the smaller subdivision, so that all the powers which can properly be exercised by the municipal government shall be vested in that government, and all the powers of a more general character which can be exercised by the departmental government shall be vested in that government, and so that in the governmental system, which is the result of the process, the central government of the islands, following the example of the distribution of the powers between the States and the National Government of the United States, shall have no direct administration except of matters of purely general concern, and shall have only such supervision and control over local governments as may be necessary to secure and enforce faithful and efficient administration by local officers.

"The many different degrees of civilization and varieties of custom and capacity among the people of the different islands preclude very definite instruction as to the part which the people shall take in the selection of their own officers; but these general rules are to be observed: That in all cases the municipal officers, who administer the local affairs of the people, are to be selected by the people, and that wherever officers of more extended jurisdiction are to be selected in any way, natives of the islands are to be preferred, and if they can be found competent and willing to perform the duties, they are to receive the offices in preference to any others.

"It will be necessary to fill some offices for the present with Americans which after a time may well be filled by natives of the islands. As soon as practicable a system for ascertaining the merit and fitness of candidates for civil office should be put in force. An indispensable qualification for all offices and positions of trust and authority in the islands must be absolute and unconditional loyalty to the United States, and absolute and unhampered authority and power to remove and punish any officer deviating from that standard must at all times be retained in the hands of the central authority of the islands.

"In all the forms of government and administrative provisions which they are authorized to prescribe the commission should bear in mind that the government which they are establishing is designed not for our satisfaction, or for the expression of our theoretical views, but for the happiness, peace, and prosperity of the people of the Philippine Islands, and the measures adopted should be made to conform to their customs, their habits, and even their prejudices, to the fullest extent consistent with the accomplishment of the indispensable requisites of just and effective government.

"At the same time the commission should bear in mind, and the people of the islands should be made plainly to understand, that there are certain great principles of government which have been made the basis of our governmental system which we deem essential to the rule of law and the maintenance of individual freedom, and of which they have, unfortunately, been denied the experience possessed by us; that there are also certain practical rules of government which we have found to be essential to the preservation of these great principles of liberty and law, and that these principles and these rules of government must be established and maintained in their islands for the sake of their liberty and happiness, however much they may conflict with the customs or laws of procedure with which they are familiar.

"It is evident that the most enlightened thought of the Philippine Islands fully appreciates the importance of these principles and rules, and they will inevitably within a short time command universal assent. Upon every division and branch of the government of the Philippines, therefore, must be imposed these inviolable rules:

"That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right to a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense; that excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offense, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist except as a punishment for crime; that no bill of attainder or ex-post-facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press, or the rights of the people to peaceably assemble and petition the Government for a redress of grievances; that no law shall be made respecting an establishment of religion, or prohibiting the free exercise thereof, and that the free exercise and enjoyment of relig-

ious profession and worship without discrimination or preference shall forever be allowed.

"It will be the duty of the commission to make a thorough investigation into the titles to the large tracts of land held or claimed by individuals or by religious orders; into the justice of the claims and complaints made against such landholders by the people of the island or any part of the people, and to seek by wise and peaceable measures a just settlement of the controversies and redress of wrongs which have caused strife and bloodshed in the past. In the performance of this duty the commission is enjoined to see that no injustice is done; to have regard for substantial rights and equity, disregarding technicalities so far as substantial right permits, and to observe the following rules:

"That the provision of the treaty of Paris pledging the United States to the protection of all rights of property in the islands, and as well the principle of our own Government which prohibits the taking of private property without due process of law, shall not be violated; that the welfare of the people of the islands, which should be a paramount consideration, shall be attained consistently with this rule of property right; that if it becomes necessary for the public interest of the people of the islands to dispose of claims to property which the commission finds to be not lawfully acquired and held, disposition shall be made thereof by due legal procedure, in which there shall be full opportunity for fair and impartial hearing and judgment; that if the same public interests require the extinguishment of property rights lawfully acquired and held, due compensation shall be made out of the public treasury therefor; that no form of religion and no minister of religion shall be forced upon any community or upon any citizen of the islands; that, upon the other hand, no minister of religion shall be interfered with or molested in following his calling, and that the separation between state and church shall be real, entire, and absolute.

"It will be the duty of the commission to promote and extend, and, as they find occasion, to improve, the system of education, already inaugurated by the military authorities. In doing this they should regard as of first importance the extension of a system of primary education which shall be free to all, and which shall tend to fit the people for the duties of citizenship and for the ordinary avocations of a civilized community. This instruction should be given in the first instance in every part of the islands in the language of the people. In view of the great number of languages spoken by the different tribes, it is especially important to the prosperity of the islands that a common medium of communication may be established, and it is obviously desirable that this medium should be the English language. Especial attention should be at once given to affording full opportunity to all the people of the islands to acquire the use of the English language.

"It may be well that the main changes which should be made in the system of taxation and in the body of the laws under which the people are governed, except such changes as have already been made by the military government, should be relegated to the civil government which is to be established under the auspices of the commission. It will, however, be the duty of the commission to inquire diligently as to whether there are any further changes which ought not to be delayed, and if so, they are authorized to make such changes, subject to your approval. In doing so they are to bear in mind that taxes which tend to penalize or repress industry and enterprise are to be avoided; that provisions for taxation should be

simple, so that they may be understood by the people; that they should affect the fewest practicable subjects of taxation which will serve to the general distribution of the burden.

"The main body of the laws which regulate the rights and obligations of the people should be maintained with as little interference as possible. Changes made should be mainly in procedure, and in the criminal laws to secure speedy and impartial trials, and at the same time effective administration and respect for individual rights.

"In dealing with the uncivilized tribes of the islands the commission should adopt the same course followed by Congress in permitting the tribes of our North American Indians to maintain their tribal organization and government, and under which many of those tribes are now living in peace and contentment, surrounded by a civilization to which they are unable or unwilling to conform. Such tribal governments should, however, be subjected to wise and firm regulation, and, without undue or petty interference, constant and active effort should be exercised to prevent barbarous practices and introduce civilized customs.

"Upon all officers and employees of the United States, both civil and military, should be impressed a sense of the duty to observe not merely the material but the personal and social rights of the people of the islands, and to treat them with the same courtesy and respect for their personal dignity which the people of the United States are accustomed to require from each other.

"The articles of capitulation of the city of Manila on the 13th of August, 1898, concluded with these words:

"This city, its inhabitants, its churches and religious worship, its educational establishments, and its private property of all descriptions, are placed under the special safeguard of the faith and honor of the American army."

"I believe that this pledge has been faithfully kept. As high and sacred an obligation rests upon the Government of the United States to give protection for property and life, civil and religious freedom, and wise, firm, and unselfish guidance in the paths of peace and prosperity to all the people of the Philippine Islands. I charge this commission to labor for the full performance of this obligation, which concerns the honor and conscience of their country, in the firm hope that through their labors all the inhabitants of the Philippine Islands may come to look back with gratitude to the day when God gave victory to American arms at Manila and set their land under the sovereignty and the protection of the people of the United States."

Coincidentally with the entrance of the commission upon its labors I caused to be issued by Gen. MacArthur, the military governor of the Philippines, on June 21, 1900, a proclamation of amnesty in generous terms, of which many of the insurgents took advantage, among them a number of important leaders.

This commission, composed of eminent citizens representing the diverse geographical and political interests of the country, and bringing to their task the ripe fruits of long and intelligent service in educational, administrative, and judicial careers, made great progress from the outset. As early as Aug. 21, 1900, it submitted a preliminary report, which will be laid before the Congress, and from which it appears that already the good effects of returning order are felt; that business, interrupted by hostilities, is improving as peace extends; that a larger area is under sugar cultivation than ever before; that the customs revenues are greater than at any time during the Spanish rule; that economy

and efficiency in the military administration have created a surplus fund of \$6,000,000, available for needed public improvements; that a stringent civil-service law is in preparation; that railroad communications are expanding, opening up rich districts, and that a comprehensive scheme of education is being organized.

Later reports from the commission show yet more encouraging advance toward insuring the benefits of liberty and good government to the Filipinos, in the interest of humanity and with the aim of building up an enduring, self-supporting, and self-administering community in those far Eastern seas. I would impress upon the Congress that whatever legislation may be enacted in respect to the Philippine Islands should be along those generous lines. The fortune of war has thrown upon this nation an unsought trust which should be unselfishly discharged, and devolved upon this Government a moral as well as material responsibility toward these millions whom we have freed from an oppressive yoke.

I have on another occasion called the Filipinos "the wards of the nation." Our obligation as guardian was not lightly assumed; it must not be otherwise than honestly fulfilled, aiming first of all to benefit those who have come under our fostering care. It is our duty so to treat them that our flag may be no less beloved in the mountains of Luzon and the fertile zones of Mindanao and Negros than it is at home; that there as here it shall be the revered symbol of liberty, enlightenment, and progress in every avenue of development.

The Filipinos are a race quick to learn and to profit by knowledge. He would be rash who, with the teachings of contemporaneous history in view, would fix a limit to the degree of culture and advancement yet within the reach of these people if our duty toward them be faithfully performed.

The civil government of Porto Rico provided for by the act of the Congress approved April 12, 1900, is in successful operation. The courts have been established. The governor and his associates, working intelligently and harmoniously, are meeting with commendable success.

On the 6th of November a general election was held in the island for members of the Legislature, and the body elected has been called to convene on the first Monday of December.

I recommend that legislation be enacted by the Congress conferring upon the Secretary of the Interior supervision over the public lands in Porto Rico, and that he be directed to ascertain the location and quantity of lands the title to which remained in the Crown of Spain at the date of cession of Porto Rico to the United States, and that appropriations necessary for surveys be made, and that the methods of the disposition of such lands be prescribed by law.

On the 25th of July, 1900, I directed that a call be issued for an election in Cuba for members of a constitutional convention to frame a constitution as a basis for a stable and independent government in the island. In pursuance thereof the military governor issued the following instructions:

"Whereas the Congress of the United States by its joint resolution of April 20, 1898, declared—

"That the people of the island of Cuba are, and of right ought to be, free and independent.

"That the United States hereby disclaims any disposition or intention to exercise sovereignty, jurisdiction, or control over said island except for the pacification thereof, and asserts its determination, when that is accomplished, to leave the government and control of the island to its people."

"And whereas the people of Cuba have established municipal governments, deriving their authority from the suffrages of the people given under just and equal laws, and are now ready, in like manner, to proceed to the establishment of a general government which shall assume and exercise sovereignty, jurisdiction, and control over the island:

"Therefore, it is ordered that a general election be held in the island of Cuba on the third Saturday of September, in the year nineteen hundred, to elect delegates to a convention to meet in the city of Havana at twelve o'clock noon, on the first Monday of November, in the year nineteen hundred, to frame and adopt a constitution for the people of Cuba, and as a part thereof to provide for and agree with the Government of the United States upon the relations to exist between that Government and the Government of Cuba, and to provide for the election by the people of officers under such constitution and the transfer of government to the officers so elected.

"The election will be held in the several voting precincts of the island under and pursuant to the provisions of the electoral law of April 18, 1900, and the amendments thereof."

The election was held on the 15th of September, and the convention assembled on the 5th of November, 1900, and is now in session.

In calling the convention to order, the military governor of Cuba made the following statement:

"As military governor of the island, representing the President of the United States, I call this convention to order.

"It will be your duty, first, to frame and adopt a constitution for Cuba, and when that has been done to formulate what in your opinion ought to be the relations between Cuba and the United States.

"The constitution must be adequate to secure a stable, orderly, and free government.

"When you have formulated the relations which in your opinion ought to exist between Cuba and the United States, the Government of the United States will doubtless take such action on its part as shall lead to a final and authoritative agreement between the people of the two countries to the promotion of their common interests.

"All friends of Cuba will follow your deliberations with the deepest interest, earnestly desiring that you shall reach just conclusions, and that by the dignity, individual self-restraint, and wise conservatism which shall characterize your proceedings the capacity of the Cuban people for representative government may be signally illustrated.

"The fundamental distinction between true representative government and dictatorship is that in the former every representative of the people, in whatever office, confines himself strictly within the limits of his defined powers. Without such restraint there can be no free constitutional government.

"Under the order pursuant to which you have been elected and convened, you have no duty and no authority to take part in the present government of the island. Your powers are strictly limited by the terms of that order."

When the convention concludes its labors I will transmit to the Congress the constitution as framed by the convention for its consideration and for such action as it may deem advisable.

I renew the recommendation made in my special message of Feb. 10, 1899, as to the necessity for cable communication between the United States and Hawaii, with extension to Manila. Since then circumstances have strikingly emphasized this need. Surveys have shown the entire feasibility

of a chain of cables which at each stopping place shall touch on American territory, so that the system shall be under our own complete control. Manila once within telegraphic reach, connection with the systems of the Asiatic coast would open increased and profitable opportunities for a more direct cable route from our shores to the Orient than is now afforded by the transatlantic, continental, and transasian lines. I urge attention to this important matter.

The present strength of the army is 100,000 men—65,000 regulars and 35,000 volunteers. Under the act of March 2, 1899, on the 30th of June next the present volunteer force will be discharged and the regular army will be reduced to 2,447 officers and 29,025 enlisted men.

In 1888 a board of officers convened by President Cleveland adopted a comprehensive scheme of coast-defense fortifications, which involved the outlay of something over \$100,000,000. This plan received the approval of the Congress, and since then regular appropriations have been made and the work of fortifications has steadily progressed.

More than \$60,000,000 have been invested in a great number of forts and guns, with all the complicated and scientific machinery and electrical appliances necessary for their use. The proper care of this defensive machinery requires men trained in its use. The number of men necessary to perform this duty alone is ascertained by the War Department, at a minimum allowance, to be 18,420.

There are 58 or more military posts in the United States other than the coast-defense fortifications.

The number of these posts is being constantly increased by the Congress. More than \$22,000,000 have been expended in building and equipment, and they can only be cared for by the regular army. The posts now in existence and others to be built provide for accommodations for, and if fully garrisoned require, 26,000 troops. Many of these posts are along our frontier or at important strategic points, the occupation of which is necessary.

We have in Cuba between 5,000 and 6,000 troops. For the present our troops in that island can not be withdrawn or materially diminished, and certainly not until the conclusion of the labors of the constitutional convention now in session and a government provided by the new constitution shall have been established and its stability assured.

In Porto Rico we have reduced the garrisons to 1,636, which includes 879 native troops. There is no room for further reduction here.

We will be required to keep a considerable force in the Philippine Islands for some time to come. From the best information obtainable we will need there for the immediate future from 45,000 to 60,000 men. I am sure the number may be reduced as the insurgents shall come to acknowledge the authority of the United States, of which there are assuring indications.

It must be apparent that we will require an army of about 60,000, and that during present conditions in Cuba and the Philippines the President should have authority to increase the force to the present number of 100,000. Included in this number authority should be given to raise native troops in the Philippines up to 15,000, which the Taft Commission believe will be more effective in detecting and suppressing guerrillas, assassins, and ladrones than our own soldiers.

The full discussion of this subject by the Secretary of War in his annual report is called to your earnest attention.

I renew the recommendation made in my last

annual message that the Congress provide a special medal of honor for the volunteers, regulars, sailors, and marines on duty in the Philippines who voluntarily remained in the service after their terms of enlistment had expired.

I favor the recommendation of the Secretary of War for the detail of officers from the line of the army when vacancies occur in the adjutant-general's department, inspector-general's department, quartermaster's department, subsistence department, pay department, ordnance department, and signal corps.

The army can not be too highly commended for its faithful and effective service in active military operations in the field and the difficult work of civil administration.

The continued and rapid growth of the postal service is a sure index of the great and increasing business activity of the country. Its most striking new development is the extension of rural free delivery. This has come almost wholly within the last year. At the beginning of the fiscal year 1899-1900 the number of routes in operation was only 391, and most of these had been running less than twelve months. On the 15th of November, 1900, the number had increased to 2,614, reaching into 44 States and Territories, and serving a population of 1,801,524. The number of applications now pending and awaiting action nearly equals all those granted up to the present time, and by the close of the current fiscal year about 4,000 routes will have been established, providing for the daily delivery of mails at the scattered homes of about 3,500,000 of rural population.

This service ameliorates the isolation of farm life, conduces to good roads, and quickens and extends the dissemination of general information. Experience thus far has tended to allay the apprehension that it would be so expensive as to forbid its general adoption or make it a serious burden. Its actual application has shown that it increases postal receipts, and can be accompanied by reductions in other branches of the service, so that the augmented revenues and the accomplished savings together materially reduce the net cost. The evidences which point to these conclusions are presented in detail in the annual report of the Postmaster-General, which, with its recommendations, is commended to the consideration of the Congress. The full development of this special service, however, requires such a large outlay of money that it should be undertaken only after a careful study and thorough understanding of all that it involves.

Very efficient service has been rendered by the navy in connection with the insurrection in the Philippines and the recent disturbance in China.

A very satisfactory settlement has been made of the long-pending question of the manufacture of armor-plate. A reasonable price has been secured and the necessity for a Government armor plant avoided.

I approve of the recommendations of the Secretary for new vessels and for additional officers and men which the required increase of the navy makes necessary. I commend to the favorable action of the Congress the measure now pending for the erection of a statue to the memory of the late Admiral David D. Porter. I commend also the establishment of a national naval reserve and of the grade of vice-admiral. Provision should be made, as recommended by the Secretary, for suitable rewards for special merit. Many officers who rendered the most distinguished service during the recent war with Spain have received in return no recognition from the Congress.

The total area of public lands as given by the

Secretary of the Interior is approximately 1,071,881,662 acres, of which 917,135,880 acres are undisposed of and 154,745,782 acres have been reserved for various purposes. The public lands disposed of during the year amount to 13,453,887.96 acres, including 62,423.09 acres of Indian lands, an increase of 4,271,474.80 acres over the preceding year. The total receipts from the sale of public lands during the fiscal year were \$4,379,758.10, an increase of \$1,309,620.76 over the preceding year.

The results obtained from our forest policy have demonstrated its wisdom and the necessity in the interest of the public for its continuance and increased appropriations by the Congress for the carrying on of the work. On June 30, 1900, there were 37 forest reserves, created by presidential proclamations under section 24 of the act of March 3, 1891, embracing an area of 46,425,529 acres.

During the past year the Olympic Reserve, in the State of Washington, was reduced 265,040 acres, leaving its present area at 1,923,840 acres. The Prescott Reserve, in Arizona, was increased from 10,240 acres to 423,680 acres, and the Big Horn Reserve, in Wyoming, was increased from 1,127,680 acres to 1,180,800 acres. A new reserve, the Santa Ynez, in California, embracing an area of 145,000 acres, was created during this year. On Oct. 10, 1900, the Crow Creek Forest Reserve, in Wyoming, was created, with an area of 56,320 acres.

At the end of the fiscal year there were on the pension roll 993,529 names, a net increase of 2,010 over the fiscal year 1899. The number added to the rolls during the year was 45,344. The amount disbursed for army pensions during the year was \$134,700,597.24, and for navy pensions \$3,761,533.41, a total of \$138,462,130.65, leaving an unexpended balance of \$5,542,768.25 to be covered into the Treasury, which shows an increase over the previous year's expenditure of \$107,077.70. There were 684 names added to the rolls during the year by special acts passed at the first session of the Fifty-sixth Congress.

The act of May 9, 1900, among other things provides for an extension of income to widows pensioned under said act to \$250 per annum. The Secretary of the Interior believes that by the operations of this act the number of persons pensioned under it will increase and the increased annual payment for pensions will be between \$3,000,000 and \$4,000,000.

The Government justly appreciates the services of its soldiers and sailors by making pension payments liberal beyond precedent to them, their widows and orphans.

There were 36,540 letters patent granted, including reissues and designs, during the fiscal year ended June 30, 1900; 1,660 trade-marks, 682 labels, and 93 prints registered. The number of patents which expired was 19,988. The total receipts for patents were \$1,358,228.35. The expenditures were \$1,247,827.58, showing a surplus of \$110,400.77.

The attention of the Congress is called to the report of the Secretary of the Interior touching the necessity for the further establishment of schools in the Territory of Alaska, and favorable action is invited thereon.

Much interesting information is given in the report of the Governor of Hawaii as to the progress and development of the islands during the period from July 7, 1898, the date of the approval of the joint resolution of the Congress providing for their annexation, up to April 30, 1900, the date of the approval of the act providing a government for the Territory, and thereafter.

The last Hawaiian census, taken in the year 1896, gives a total population of 109,020, of which 31,019 were native Hawaiians. The number of Americans reported was 8,485. The results of the Federal census, taken this year, show the islands to have a total population of 154,001, showing an increase over that reported in 1896 of 44,981, or 41.2 per cent.

There has been marked progress in the educational, agricultural, and railroad development of the islands.

In the Territorial act of April 30, 1900, section 7 of said act repeals chapter xxxiv of the civil laws of Hawaii, whereby the Government was to assist in encouraging and developing the agricultural resources of the republic, especially irrigation. The Governor of Hawaii recommends legislation looking to the development of such water-supply as may exist on the public lands, with a view of promoting land settlement. The earnest consideration of the Congress is invited to this important recommendation and others, as embodied in the report of the Secretary of the Interior.

The director of the census states that the work in connection with the twelfth census is progressing favorably. This national undertaking, ordered by the Congress each decade, has finally resulted in the collection of an aggregation of statistical facts to determine the industrial growth of the country, its manufacturing and mechanical resources, its richness in mines and forests, the number of its agriculturists, their farms and products, its educational and religious opportunities, as well as questions pertaining to sociological conditions.

The labors of the officials in charge of the bureau indicate that the four important and most desired subjects—namely, population, agricultural, manufacturing, and vital statistics—will be completed within the limit prescribed by the law of March 3, 1899.

The field work incident to the above inquiries is now practically finished, and as a result the population of the States and Territories, including the Hawaiian Islands and Alaska, has been announced. The growth of population during the last decade amounts to over 13,000,000, a greater numerical increase than in any previous census in the history of the country.

Bulletins will be issued as rapidly as possible giving the population by States and Territories, by minor civil divisions. Several announcements of this kind have already been made, and it is hoped that the list will be completed by Jan. 1. Other bulletins giving the results of the manufacturing and agricultural inquiries will be given to the public as rapidly as circumstances will admit.

The director, while confident of his ability to complete the different branches of the undertaking in the allotted time, finds himself embarrassed by the lack of a trained force properly equipped for statistical work, thus raising the question whether in the interest of economy and a thorough execution of the census work there should not be retained in the Government employ a certain number of experts, not only to aid in the preliminary organization prior to the taking of the decennial census, but in addition to have the advantage in the field and office work of the bureau of trained assistants to facilitate the early completion of this enormous undertaking.

I recommend that the Congress at its present session apportion representation among the several States as provided by the Constitution.

The Department of Agriculture has been extending its work during the past year, reaching farther for new varieties of seeds and plants; co-

operating more fully with the States and Territories in research along useful lines; making progress in meteorological work relating to lines of wireless telegraphy and forecasts for ocean-going vessels; continuing inquiry as to animal disease; looking into the extent and character of food adulteration; outlining plans for the care, preservation, and intelligent harvesting of our woodlands; studying soils that producers may cultivate with better knowledge of conditions, and helping to clothe desert places with grasses suitable to our arid regions. Our island possessions are being considered that their peoples may be helped to produce the tropical products now so extensively brought into the United States. Inquiry into methods of improving our roads has been active during the year; help has been given to many localities, and scientific investigation of material in the States and Territories has been inaugurated. Irrigation problems in our semiarid regions are receiving careful and increased consideration.

An extensive exhibit at Paris of the products of agriculture has made the peoples of many countries more familiar with the varied products of our fields and their comparative excellence.

The collection of statistics regarding our crops is being improved, and sources of information are being enlarged, to the end that producers may have the earliest advices regarding crop conditions. There has never been a time when those for whom it was established have shown more appreciation of the services of the department.

In my annual message of Dec. 5, 1898, I called attention to the necessity for some amendment of the alien-contract law. There still remain important features of the rightful application of the eight-hour law for the benefit of labor and of the principle of arbitration, and I again commend these subjects to the careful attention of the Congress.

That there may be secured the best service possible in the Philippine Islands, I have issued, under date of Nov. 30, 1900, the following order:

"The United States Civil Service Commission is directed to render such assistance as may be practicable to the Civil Service Board, created under the act of the United States Philippine Commission, for the establishment and maintenance of an honest and efficient civil service in the Philippine Islands, and for that purpose to conduct examinations for the civil service of the Philippine Islands upon the request of the Civil Service Board of said islands, under such regulations as may be agreed upon by the said board and the said United States Civil Service Commission."

The Civil Service Commission is greatly embarrassed in its work for want of an adequate permanent force for clerical and other assistance. Its needs are fully set forth in its report. I invite attention to the report, and especially urge upon the Congress that this important bureau of the public service, which passes upon the qualifications and character of so large a number of the officers and employees of the Government, should be supported by all needed appropriations to secure promptness and efficiency.

I am very much impressed with the statement made by the heads of all the departments of the urgent necessity of a hall of public records. In every departmental building in Washington, so far as I am informed, the space for official records is not only exhausted, but the walls of rooms are lined with shelves, the middle floor space of many rooms is filled with file cases, and garrets and basements, which were never intended and are unfitted for their accommodation, are crowded with

them. Aside from the inconvenience, there is great danger, not only from fire, but from the weight of these records upon timbers not intended for their support. There should be a separate building especially designed for the purpose of receiving and preserving the annually accumulating archives of the several executive departments. Such a hall need not be a costly structure, but should be so arranged as to admit of enlargement from time to time. I urgently recommend that the Congress take early action in this matter.

I transmit to the Congress a resolution adopted at a recent meeting of the American Bar Association concerning the proposed celebration of John Marshall Day, Feb. 4, 1901. Fitting exercises have been arranged, and it is earnestly desired by the committee that the Congress may participate in this movement to honor the memory of the great jurist.

The transfer of the Government to this city is a fact of great historical interest. Among the people there is a feeling of genuine pride in the capital of the republic.

It is a matter of interest in this connection that in 1800 the population of the District of Columbia was 14,093; to-day it is 278,718. The population of the city of Washington was then 3,210; to-day it is 218,196.

The Congress having provided for "an appropriate national celebration of the Centennial Anniversary of the Establishment of the Seat of Government in the District of Columbia," the committees authorized by it have prepared a program for the 12th of December, 1900, which date has been selected as the anniversary day. Deep interest has been shown in the arrangements for the celebration by the members of the committees of the Senate and House of Representatives, the committee of governors appointed by the President, and the committees appointed by the citizens and inhabitants of the District of Columbia generally. The program, in addition to a reception and other exercises at the executive mansion, provides commemorative exercises to be held jointly by the Senate and House of Representatives in the hall of the House of Representatives, and a reception in the evening at the Corcoran Gallery of Art in honor of the governors of the States and Territories.

In our great prosperity we must guard against the danger it invites of extravagance in Government expenditures and appropriations; and the chosen representatives of the people will, I doubt not, furnish an example in their legislation of that wise economy which in a season of plenty husbands for the future. In this era of great business activity and opportunity caution is not untimely. It will not abate, but strengthen, confidence. It will not retard, but promote, legitimate industrial and commercial expansion. Our growing power brings with it temptations and perils requiring constant vigilance to avoid. It must not be used to invite conflicts, nor for oppression, but for the more effective maintenance of those principles of equality and justice upon which our institutions and happiness depend. Let us keep always in mind that the foundation of our Government is liberty; its superstructure peace.

WILLIAM MCKINLEY.

EXECUTIVE MANSION, Dec. 3, 1900.

The Apportionment.—Dec. 20, 1900, Mr. Hopkins, of Illinois, reported from the Committee on the Census a bill for the apportionment of Representatives in Congress among the several States, under the twelfth census. It was as follows:

"Be it enacted, etc., That after the 3d of March,

1903, the House of Representatives shall be composed of 357 members, to be apportioned among the several States as follows:

"Alabama, 9; Arkansas, 6; California, 7; Colorado, 2; Connecticut, 4; Delaware, 1; Florida, 2; Georgia, 11; Idaho, 1; Illinois, 23; Indiana, 12; Iowa, 11; Kansas, 7; Kentucky, 10; Louisiana, 7; Maine, 3; Maryland, 6; Massachusetts, 13; Michigan, 12; Minnesota, 8; Mississippi, 7; Missouri, 15; Montana, 1; Nebraska, 5; Nevada, 1; New Hampshire, 2; New Jersey, 9; New York, 35; North Carolina, 9; North Dakota, 1; Ohio, 20; Oregon, 2; Pennsylvania, 30; Rhode Island, 2; South Carolina, 6; South Dakota, 2; Tennessee, 10; Texas, 15; Utah, 1; Vermont, 2; Virginia, 9; Washington, 2; West Virginia, 5; Wisconsin, 10; Wyoming, 1.

"SEC. 2. That whenever a new State is admitted to the Union the Representative or Representatives assigned to it shall be in addition to the number 357.

"SEC. 3. That in each State entitled under this apportionment, the number to which such State may be entitled in the Fifty-eighth and each subsequent Congress shall be elected by districts composed of contiguous and compact territory and containing as nearly as practicable an equal number of inhabitants. The said districts shall be equal to the number of Representatives to which such State may be entitled in Congress, no one district electing more than one Representative.

"SEC. 4. That in case of an increase in the number of Representatives which may be given to any State under this apportionment such additional Representative or Representatives shall be elected by the State at large, and the other Representatives by the districts now prescribed by law until the Legislature of such State, in the manner herein prescribed, shall redistrict such State; and if there be no increase in the number of Representatives from a State the Representatives thereof shall be elected from the districts now prescribed by law until such State be redistricted as herein prescribed by the Legislature of said State; and if the number hereby provided for shall in any State be less than it was before the change hereby made, then the whole number to such State hereby provided for shall be elected at large, unless the Legislatures of said States have provided or shall otherwise provide before the time fixed by law for the next election of Representatives therein.

"SEC. 5. That all acts and parts of acts inconsistent with this act are hereby repealed."

Mr. Burleigh, of Maine, brought in a minority measure, enlarging the membership of the House to 386, and making a different distribution of Representatives. A bill was also introduced by Mr. Crumpacker, of Indiana, granting to every State a full proportion of membership according to population, except South Carolina, North Carolina, Mississippi, and Louisiana, in which representation was to be cut down, under the provisions of the fourteenth amendment to the Constitution, on the ground that they have disfranchised 40 per cent. of their people.

The matter was taken up in the House on Jan. 4, 1901; and on that day Mr. Shattuc, of Ohio, presented the following substitute:

"Whereas, The continued enjoyment of full representation in this House by any State which has, for reasons other than participation in rebellion or other crime, denied to any of the male inhabitants thereof, being twenty-one years of age and citizens of the United States, the right to vote for Representatives in Congress, presidential electors, and other specified officers, is in direct violation

of the fourteenth amendment to the Constitution of the United States, which declares that in such case 'the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State,' and is an invasion of the rights and dignity of this House and of its members, and an infringement upon the rights and privileges in this House of other States and their Representatives; and

"Whereas, The States of Massachusetts, Maine, Connecticut, Delaware, California, Louisiana, Mississippi, North Carolina, South Carolina, Wyoming, Oregon, and other States do, by the provisions of the constitutions and statutes of said States, and for reasons other than participation in rebellion or other crime, deny the right to vote for members of Congress and presidential electors, as well as the executive and judicial officers of such States and members of the Legislatures thereof, to male inhabitants twenty-one years of age and over and citizens of the United States; and such denial in certain of the said States extends to more than one-half of those who prior to the last apportionment of representation were entitled to vote in such States; and

"Whereas, In order that the apportionment of membership of the House of Representatives may be determined in a constitutional manner: Therefore, be it

"Resolved by the House of Representatives, That the director of the census is hereby directed to furnish this House, at the earliest possible moment, the following information:

"First. The total number of male citizens of the United States over twenty-one years of age in each of the several States of the Union."

"Second. The total number of male citizens of the United States over twenty-one years of age who, by reason of State constitutional limitations or State legislation, are denied the right of suffrage, whether such denial exists on account of illiteracy, on account of pauperism, on account of polygamy, or on account of property qualifications, or for any other reason.

"Resolved further, That the Speaker of the House of Representatives is hereby authorized and directed to appoint a select committee of five members from the membership of the Census Committee of the House of Representatives, who shall investigate the question of the alleged abridgment of the elective franchise for any of the causes mentioned in all the States of the Union in which constitutional or legislative restrictions on the right of suffrage are claimed to exist, and that such committee report its findings within twenty days from the date of the adoption of this resolution to the said Census Committee, and that within one week after the said report shall have been received by the Census Committee the Census Committee shall return a bill to the House of Representatives providing for the apportionment of the membership of the House of Representatives based on the provisions of the fourteenth amendment to the Constitution of the United States."

Mr. Hopkins, in presenting the argument for the majority measure, as reported, began by giving various reasons against an increase in the membership of the House of Representatives, and declared that his committee had determined upon 357, the number under the former apportionment, as a limit beyond which it would not be well to go. Having chosen that number as a basis, the committee adopted, he said, the method recommended by Gen. Walker in 1881:

"Some time before the convening of Congress

the director of the census was directed, in accordance with the custom established for many years, to prepare tables not only for the guidance of the Committee on the Census, but also for the benefit of members and Senators. The experts in that department have prepared a table, called an apportionment table, in which they commence with 350 members and give the figures up to 400 members, inclusive. They first give the constitutional population of every State in the Union, and then the constitutional population of the entire United States. By means of these tables we can take any of these figures presented, and if we settle upon any number as the membership of this House, can easily determine the representation that will be allotted thereby to any of the States.

"As I have stated, the majority of the committee in preparing their bill selected first 357, and then in order to determine the membership to be allotted to each State under this new apportionment they divided the constitutional population of the United States—74,565,906—by 357, getting a quotient of 208,868, so that under the proposition of the majority of the committee the population of a Congressional district should aggregate 208,868. Taking that number as a divisor, we then took the population of the various States and made the division. For example, dividing the population of Alabama—1,828,697—by 208,868, it gave to the State of Alabama 8 members, with a decimal fraction of 0.755, representing a population of 157,753.

"That process was carried out with every State, the aggregate number reached by this process being 335 members, so that by this process we apportion among the several States of the Union 335 members. Now, in order to reach the 357 members, we find that there are 22 members still to be allotted; but we also find that, by the division made in the manner that I have indicated, there were major and minor fractions in the 45 different States aggregating 4,595,126.

"Under the old rule that was adopted and maintained in this country up to 1840 that population of 4,595,126 would have gone unrepresented, excepting the 4 States that under the Constitution are entitled to 1 member each; but under the policy that has been adopted during the last sixty years these major fractions were represented. It was found, however, that there were major fractions for 25 States instead of 22, including the 4 States that under the Constitution are entitled to 1 member each. How was that to be remedied? Under this apportionment 335 members had been assigned to the several States, each on the same ratio that was accorded to its sister States, leaving, as I said, 22 members to be assigned, as I have already stated.

"Now, what was the most equitable and just way to dispose of these fractions? The four million and odd thousands that I have mentioned would be entitled only to 22 members, on the ratio that we have already divided among the other States. That aggregation of fractions would not be entitled to 25 members, but only to 22. Now, it would not be in accordance with the requirements of the Constitution to give a greater representation to a fraction than to the integral numbers. It would not be just and proper to take this population that is represented by these various fractions and give them an increased representation. Then what is the most equitable and just way to dispose of the 22 members that represent the fractional numbers?

"Why, Mr. Speaker, there is but one way, and that way was pointed out many years ago by Prof. Walker, superintendent of the ninth and

tenth censuses. Prof. Walker not only agreed fully with the masterly argument that was made by Mr. Webster upon the subject, that we should take an arbitrary number for the membership of the House and have the fractions represented, but he insisted that where such an anomaly existed as we find exists at the present time the only just and proper way would be to take the State with the largest major fraction, and give to that State one of the 22 members, then take the next State that had the next highest major fraction and give to it a member, and so on until the 22 members are disposed of in the manner that I have indicated.

"Now, these 22 members represent, as I have said, all the fractions, including the population of the 4 States with 1 member each; but it is more equitable and just to apportion an additional member to the State with the highest major fraction than it would be to one with a lower major fraction, because when we come to this question of fractions (which frequently occurs, as you will find by going through these figures), one State may have a major fraction of a thousand or two above the moiety number, and another State just reach the dividing line. Where would you make the division there?

"Now, I call the attention of the members of the House to this to show that in making this apportionment as has been provided by the Committee on the Census we have been unable to deal out strict and exact justice to all States, but, as Mr. Webster said, the Constitution does not require that. It only requires us to do that as nearly as it is possible to do it in making these divisions. And I submit that when gentlemen come to study these figures as the Committee on the Census have studied them they will readily find that no other apportionment could be made and still preserve the harmony and integrity of the bill."

Mr. Hopkins went on to discuss the operation of this system in detail, and attempted to justify the result of it as shown in the bill; but various members took up specific cases of its failure in practise, however beautiful in theory. Mr. Shafroth, of Colorado, said:

"Mr. Speaker, it seems to be apparent from the questions which have been propounded to the chairman of the committee that there is something radically wrong in the formation of this bill. A bill which provides for representation in this House for the next ten years by the people of the various States of the Union should be most carefully framed.

"I have attempted to look into the inequalities of the measure, and I find that they result from the error of adopting a defective system. The system which has been adopted by the chairman of the committee in the formulation of this bill works gross injustice to a number of States in the Union. I call attention first to the wrong which is done to the State of Colorado, because that is perhaps the most apparent. We find, according to the tables that are sent to us by the director of the census and upon which this bill is framed, that even if this House is reduced to the membership of 350 Colorado is entitled to an additional member.

"If it is fixed at 351, she is entitled to an additional member. If fixed at 353, or 354, or 355, or 356, she is entitled to an additional member. But if the number 357 is picked out, then she is not entitled to an additional member. If the membership of the House goes beyond that to any extent—if it is 358 or 359 or any number up to 400—then she is entitled to an additional member. Out of the two sets of tables that are sent to this House

by the director of the census, tabulating 100 illustrations, 50 under one system and 50 under another, there is but one number by which Colorado fails to get an additional member, and that is the number fixed by the committee that has brought the bill into this House.

"Now, Mr. Speaker, I maintain that any bill which is predicated upon a system that admits of an injustice of that kind is radically wrong. I want to call attention to the fact that if the representation is fixed at 213,000 inhabitants and for each major fraction of that number, Colorado is entitled to an additional member. If it is placed at 212,000, or 211,000, or 210,000, or 209,000 and major fraction, she is entitled to an additional member. But if it is fixed at 208,868 and major fraction, she is not. Can any man, according to principles of justice, explain that paradox satisfactorily? Is there any justice in a system that works such a wrong as that?

"It may be that the system works out in mathematics that way; but no man can say it is just that a State which is entitled to an additional member, when its people are entitled to it, according to an apportionment of 213,000, is not entitled to it when that number is reduced to 208,000. There is no justice or fairness in selecting that number, and that is the only number by which Colorado fails to get the representation to which she is entitled.

"Now, that is one illustration only as to how this system works. It also works the same with some other States. It works so with the State of Maine. Upon a certain apportionment Maine is entitled to maintain 4 members in this House, and yet upon an increased membership of the House it is entitled to but 3. If the membership is placed at 383, 384, or 385, Maine is entitled to 4 Representatives, but if fixed at 386, she is entitled to only 3. If placed at 387 or 388, she is again entitled to 4 members; but if fixed at 389 or 390, she is entitled to only 3. 'Now you see it and now you don't.' Any system that works an injustice of that kind can not be defended by anybody upon principles of equity or fairness. If the State of Maine is entitled to 4 members upon the ratio of 1 Representative to each 194,689 inhabitants and major fraction, she is unquestionably entitled to the same number upon the ratio of 1 member to each 191,194 inhabitants and major fraction.

"It is done by means of a system which does not recognize that all major fractions are entitled to representation. The details of it are uninteresting. I went to the Census Bureau and told them there must be a mistake in their first set of tables. I saw the gentleman in charge of this compilation. He looked at it and said, 'Colorado entitled to an additional member at 350 or 351, and not entitled to one at a membership of 357? That must be a mistake.' He looked at it further and said, 'I don't know whether it is a mistake or not.' He ran over the column of figures, recalculated it, and at last said, 'No; it is no mistake.' There may be no mistake, but it shows the injustice and unfairness of a bill predicated upon such a system.

"He explained it on the same theory that the gentleman from Illinois attempted to—the shifting of the major fraction upon change of ratio. But he did not claim that it was fair. In fact, he said that it showed a serious defect in the system, and that the bureau had not recommended any system."

Mr. Littlefield, of Maine, discussed at some length the contention that a further increase of the membership would lessen the working capacity of the House and impair its character. He argued that if there were more members, representing

smaller districts, there would be more opportunity for each one, liberated to some extent from the calls of his constituents, to attend to public affairs. He said:

"Now, I desire to call attention for a few moments to the objections raised by the majority of the committee to increasing the size of this House. As I remember the statement of the gentleman from Illinois, it was based largely on inconvenience. The report of the committee says it is kept at its present size by reason of economy and despatch in business. The suggestion is made that the House has grown unwieldy; that it is incapable of properly performing its functions. The distinguished chairman of the committee does not make the statement in that broad language, but he substantially states that it is inconvenient, that we are adding trouble, as a reason why the basis of representation should not be increased, but should be continued at its present size, as a reason why there should be a reversal of the policy of the republic in this beginning of the twentieth century.

"It is a singular fact that this is not the first time that the argument of an unwieldy character, overgrown size, and disorderly body has been addressed to the House. For many a year it has been the fashion to denounce the House of Representatives as one of the most disorderly bodies in the world, and as being incapable of properly transacting business. The suggestion is made that no man is heard, no man can take a part in debate and receive the attention of the members, on account of the size of this great body.

"As long ago as 1842—sixty years ago—with a House of 240 members in size, 117 less than the present size, the same conditions were supposed to exist. I quote now briefly from a speech made by Mr. Wise in discussing an apportionment bill, in which he says that—

"'Never since he had held a seat in this House had it been so inefficient a body as it was at this moment. The deterioration had been constant, as well in the despatch of business as in the manner and the matter of its debate, owing, as he believed, to its overgrown size.'

"Mr. Johnson said the Senate had stigmatized the House as a bear-garden, and contended, for that reason, that its number must be reduced. Mr. Pickens, in making an answer to some suggestions to the gentleman from Massachusetts, Mr. Adams, said that instead of meeting here for consultation and legitimate discussion, if the House was increased in size, it would be a body thrown into confusion, and from its very numbers it would be imbecile for all the purposes laid down in the Constitution.

"He further said that—

"'He knew not what the reasons were which had influenced the other body, but for himself he was influenced by a fear that this House, if a large body, would degenerate into a mob and break down the barriers laid down in the Constitution.'

"Now, the gentleman from Illinois does not draw anything like so harrowing a picture of the condition of this House as was drawn by these great statesmen sixty years ago. Yet this House still lives; it still exists as a deliberative body; and there never was a time when it could transact its business with greater despatch than it can this very minute under the rules that now govern it. We here have simply an illustration of the fact that these difficulties and changes are not only largely exaggerated, but to a great degree imaginary.

"Let me go a little further and read another quotation.

"Mr. Bowne submitted that—

"There was no necessity for this House to be told that they were not to be enlarged because they were a disorderly, inefficient body, that they were growing into disrepute with the public, and to lecture them as if they were a set of schoolboys coming here to learn the first rudiments of political science."

"These were the reasons urged against increasing the size of the House when it had only 240 members. What would those gentlemen say if they could sit here in this House, with a membership of 357, deliberately acting as representatives of the people and legislating, as suggested by the gentleman from Illinois?"

"In 1882, twenty years ago, Mr. Herbert stated as a reason why the House should not be increased that 'we all know that gentlemen now sit here for a whole Congress and do not know all of their fellow members even by sight.'"

"Mr. Springer thought that an increase of over 293 would make it necessary to remove the desks and make other arrangements for seating the members. And members of the House were referred to in 1882, twenty years ago, by a distinguished member of the Senate, as sitting here as 'a dumb, influential herd.'"

"Mr. Morrill said in the Senate:

"I appeal to the knowledge of Senators who were in the House twenty years ago, when order was maintained there and the Speaker sat in his chair."

"It seems that after 1842 there was a period twenty years later when order was maintained here notwithstanding the size of the House had been increased, and notwithstanding terrible forebodings of the statesmen of that generation. But, continues Mr. Morrill (this is twenty years ago):

"Now the Speaker has to stand up all the time and speak in a stentorian voice and constantly be rapping on his desk to maintain order in a little circle round about the chair; and it is a fact that very few members are able to participate understandingly in the transaction of business."

"That is a description of this House twenty years ago, when it had 325 members. And now the chairman of this committee is not able, with his knowledge of this House and its deliberations, to draw anything like so drastic a picture of the conditions which he thinks may afflict us if the membership is increased; and certainly the extreme conditions thus described do not exist today with a larger membership."

"The gentleman says that men are sent here to legislate. I agree with him. But, I ask, why is it that members of this House have no information in detail about the river and harbor appropriation bill except such items as happen to concern their districts, their special harbor, or their special brook that is to be improved under that great bill? Why is it that none of them understood the provisions or knew the terms of the bill appropriating \$145,000,000 that passed this House in eleven minutes during this session?"

"Why is it that so few members of this House understood fully the details of the bill that passed before the recess giving to two great railroads that enter this capital cash and property ranging in value anywhere from \$4,000,000 to \$6,000,000? Is it because the House is too large, or because the constituencies are too large? I submit to the candid consideration of members of this House that it is by reason of the size of the constituencies that the members of this House are not able to give the time to independent investigation, so that they may know whether a report that a committee brings into this House is wise or unwise."

"How is the time of members of this House occupied? Is it occupied in legislation upon this floor, or is it occupied from early morning in reading over the last mail that reaches every member voicing the wants of his constituents, 99 per cent. of whose demands are aside from any legislation upon this floor? Or is it because the members are obliged to read their correspondence and, in the exercise of ordinary courtesy, to answer it, and then to visit department after department during the morning hours and during the hours this House is in session? Or is it because members are obliged to look out for needy constituents who desire to be injected into office, and who, once injected, desire to be promoted or to have their salaries increased, and are not willing to rest upon a letter written to a head of a department asking him to increase the salary or promote the needy applicant, but must insist upon a member making a personal visit to the head of the department and pressing the claims of his constituents?"

"It is not the size of the House that prevents members from having an intelligent understanding of the legislation pending before this body; it is the size of the constituencies. Mediums of communication—fast mails, telegraphs, telephones, etc.—do what? They simply concentrate in intensified volume these applications and demands of every intelligent constituency upon the Representatives that sit here. What is the remedy of the gentleman from Illinois to enable this House to more intelligently legislate? Not, he says, that men may make speeches, not that they may take part in debate, but, that they may know what is going on in this House, increase the burden that now prevents this result."

Mr. Shattuc, of Ohio, took up the issue raised in his resolutions given above. He quoted the second section of the fourteenth amendment:

"Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice-President of the United States, Representatives in Congress, the executive and judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male members of such State, being twenty-one years of age and citizens of the United States, or in any way abridged, except for participation in rebellion or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State."

He then argued for the absolute and literal enforcement of this constitutional provision in all the States. He said:

"When in former Congresses, before which the question of apportionment came, it was urged that the right to vote in certain Southern States was being denied by the operations of the Kuklux Klan—through what the Senator from South Carolina and the Democratic custodian of the Declaration of Independence defends as a system of 'fraud and intimidation'—the point was made by the Democratic members that these denials, these abridgments of the electorates, were the acts of individuals and not of States, and that in consequence the fourteenth amendment was not applicable and could not become so until the States acted. Congress seemed to take that view, for nothing was done. But within the last decade, in the picturesque words of the same statesman I have quoted, the politicians in these States 'grew tired' of their bloody work. They sought to do by pro-

cess of law what they had theretofore done in defiance of the law. In 4 of these States in the past ten years they have placed amendments in their constitutions and have placed laws upon their statute books that disfranchised from 40 to 50 per cent. of the voters of their States. The defense employed in the seventies, that the abridgment of the electorate was the act of individuals and not of the State, no longer holds good. In 4 of the Southern States the denial of the right to vote to 40 or 50 per cent. of the male members, twenty-one years of age or over, and citizens of the United States, is no longer the act of individuals, but of the States.

"The doubts and quibbles of former years can not be said to exist now to obstruct the application of the provisions of the fourteenth amendment. The very argument that was presented then to defend, to-day convicts. To my mind, the first cause which led former Congresses to refrain from action has now entirely disappeared in these four instances. Coming to the second cause, we find that in 1870 there were 3 States that had abridged their electorates—California, Connecticut, and Massachusetts. In these 3 States there was a constitutional provision for an educational qualification, which disfranchised a certain percentage of the electorate—namely, the illiterates. But in those States the percentage of illiteracy is very light, averaging about 6 per cent. The basis of representation would hardly have been affected in those States had the fourteenth amendment been conformed with. An examination into the election laws of the various States reveals an astonishing tendency at this time to abridge their electorates. When the Congress which adopted the existing apportionment discussed the matter ten years ago but three States had abridged their electorate by action of the State, and in these the percentage of disfranchised males was but 6 per cent. But since that time similar policies have been adopted by other States, and to-day we face the fact that 10 of the 45 States of this Union have abridged their electorates, and that in these the percentage of males, twenty-one years of age and over, disfranchised, averages over 20 per cent. The constitutions of several other States permit such an abridgment. Besides, there are other States preparing to adopt these policies and to disfranchise thousands of men who to-day hold the right of franchise.

"In view of this remarkable tendency, it is inconceivable that Congress can longer permit the fourteenth amendment to remain a dead letter, and to pass a bill making an apportionment based solely upon the population and neglecting the proviso which applies to all States which have abridged their electorate. We will not review the past by any discussion of the question as to whether the provisions of the fourteenth amendment should have been made effective when the last apportionment was made ten years ago. We find to-day conditions existing which make its enforcement imperative. I do not propose to discuss at this time whether the reasons given for these abridgments by the people of the various States are valid or not, though I have pronounced views on the subject, and shall no doubt take occasion to express them in this House at some future time. I do not propose to enter into any long discussion on the rights of man at this time, for such a discussion could only befog the situation and render our duty less clear. I am simply pointing out the conditions as they exist; I am simply pointing out that the time has come when the tendency of the States to abridge their electorates has grown to such proportions as to de-

mand that this Congress shall proceed in a constitutional manner in making the new apportionment. I do not say that States have not the right to establish educational qualifications for their electors, but I do maintain that when they have done so they must pay the penalty prescribed in the Constitution, and have their representation abridged proportionately. I do not say that we shall punish only Louisiana; I do not say that we shall punish only Massachusetts; I do not say that we shall punish only California; but I do say and insist, as the representative of a State in which every male member twenty-one years of age and over is guaranteed the sacred right of franchise, that there is a constitutional remedy prescribed for their acts, and I do demand that that remedy be applied.

"In order that some understanding of the question may be gained, I will briefly sketch the character of the electoral qualifications in the States comprising each of our 4 great geographical subdivisions. In the 11 States comprising the North Atlantic division—Maine, New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Vermont, Rhode Island, Delaware, and Maryland—are to be found 4 States which require an educational qualification for suffrage. These are Connecticut and Massachusetts, which adopted the requirement in the middle of the century, and Maine and Delaware, which have adopted it within the last decade. An attempt to place an educational provision in the new Rhode Island Constitution resulted in its rejection by the people in 1899. The old property qualifications which existed formerly in several of these States have been swept away, Rhode Island, a dozen years ago, being the last State to wipe them out as a requisite to suffrage. The demand for a poll-tax has also grown in disfavor in this section. In Pennsylvania, however, a man must have paid a State or county tax within two years to be eligible to vote. In Massachusetts before a man can register, he must prove that he has been assessed to the payment of a poll-tax. In New Hampshire a man who has been excused at his own request from the payment of a tax may not vote unless he first make a tender of the amount of the tax.

"In the Central Northern States—Ohio, Indiana, Illinois, Wisconsin, Iowa, Michigan, Minnesota, Missouri, Kansas, Nebraska, and Kentucky—are to be found no abridgment of the electorate. On the contrary, we find extensions not found in the Southern or Atlantic States in regard to Indian citizenship and suffrage. Michigan and Wisconsin grant a vote to Indians not in the tribal relation. Minnesota admits to the suffrage persons of mixed white and Indian blood who have adopted the customs and habits of civilization, and also pure-blooded Indians who, upon examination before any district court of the State, may prove that they have adopted the language, habits, and customs of civilization and shall be pronounced by the court capable of enjoying the rights of citizenship within the State. It may be interesting to note that the number of Indians and half-breeds in Minnesota entitled to vote under this provision is 1,342. Another peculiarity is the extension of the right of suffrage on State affairs in five of those States—Indiana, Wisconsin, Missouri, Kansas, and Nebraska—to aliens. There are no poll-tax requirements in the States of this division. Indiana alone of this division disqualifies United States soldiers, sailors, and marines from the right of suffrage.

"In the Western division of States—California, Oregon, Nevada, Colorado, North Dakota, South

Dakota, Montana, Washington, Idaho, Wyoming, and Utah—we again find a multitude of diverse provisions for an abridgment of the electorate, seemingly dependent upon local conditions. California and Nevada exclude all natives of China; Idaho, 'Chinese or persons of Mongolian descent not born in the United States.' Oregon, 'No negro, Chinaman, or mulatto shall have the right of suffrage,' the disqualification so far as it refers to negroes and mulattoes being obsolete. Washington, Idaho, and North Dakota specifically exclude from suffrage Indians who have not renounced the tribal relation. The Constitution of Idaho disqualifies any person 'who is a bigamist or polygamist, or is living in what is known as a patriarchal, plural, or celestial marriage,' or who 'in any manner teaches, advises, counsels, or contributes to the support of any order, organization, association, corporation, or society' which gives countenance to them. Wyoming has a constitutional limitation of the suffrage to those who can read the Constitution. California requires that voters be able to read the Constitution and write their names.

"In 1896 Washington adopted an amendment disqualifying future applicants for the suffrage who should not be able to speak and read the English language, but the amendment is not in force, as the Legislature has passed no law prescribing a method by which this ability may be determined.

"The Colorado Constitution authorizes the General Assembly to prescribe an educational qualification, stipulating, however, that no qualified voter shall be thereby deprived of the right to vote. North Dakota last year adopted a constitutional amendment providing not only that 'the Legislature shall by law establish an educational test as a qualification,' but also that it 'may prescribe penalties for failing, neglecting, or refusing to vote at any general election.'

"In none of these States is the payment of a poll-tax made a prerequisite to voting, although Nevada's Constitution authorizes such a requirement. The precedent established in the New England States of requiring educational qualifications of the elector during the past decade developed rapidly in the Southern mind, seeking eagerly for some method to shake off the so-called negro problem. It developed in various forms, as will be shown later, but nowhere to the extent of wholesale disfranchisement as in 4 of the States—Mississippi, Louisiana, South Carolina, and North Carolina. Even in the South these 4 States occupy a position of their own in this matter which requires discussion.

"Mississippi led the way. She had refused to accept a suggestion from President Johnson that the ballot be given to negroes who possessed a little property and who could read and write, and was forced to accept a Constitution which not only admitted to the suffrage all male citizens of the United States possessing certain age and residence qualifications, but which also prohibited the imposing of any property or educational qualifications before 1885. Accordingly, a few years after this proscription had expired we find her naturally turning to a new Constitution in which the desired changes could be made. It is consequently no surprise that the Constitution adopted in 1890 contains the qualification for an educational test, in the requirement that on and after Jan. 1, 1892, every elector, in addition to the other qualifications, should be 'able to read any section of the Constitution of this State, or . . . to understand the same when read to him, or give a reasonable interpretation thereof.' (Article XII, section 244, Constitution of Mississippi.) The payment of a

poll-tax is also required. This provision was upheld in the State courts and in the Supreme Court of the United States, in which it was held that—

"The provisions . . . in section 2 . . . of the Constitution of Mississippi, making the ability to read any section of the Constitution, or to understand it when read, as a necessary qualification of a legal voter . . . do not amount to a denial of the equal protection of the law secured by the fourteenth amendment to the Constitution, and it has not been shown that their administration was evil, but only that evil was possible under them."

"Encouraged by the decision of the Mississippi courts (for the United States Supreme Court decision was not rendered until April 25, 1898), South Carolina called a constitutional convention for a similar purpose. Its convention of 1895 adopted substantially the same provisions for immediate effect, but only as a temporary measure. Up to Jan. 1, 1898, all males of voting age—

"Who can read any section of this Constitution submitted to them by the registration officer, or understand and explain it when read to them by the registration officer, shall be entitled to register and become (permanent) electors."

"After that period these qualifications were replaced for all new applicants for registration by the following:

"The applicant must be able to read and write any section of the Constitution submitted to him by the registration officer, or show that he owns and has paid taxes collectable during the previous year on property within the State assessed at \$300 or more."

"Inspired by the success of Mississippi and South Carolina in abridging the negro vote by these measures, in 1898 Louisiana called a constitutional convention to deal with the matter. As South Carolina had exceeded Mississippi by providing a property qualification, so Louisiana outdid both by making a new contribution to this class of legislation. The educational test was made more rigorous by requiring the writing out of an application for registration, involving an elaborate formula of 75 words, while the property option was made the same as fixed by South Carolina. Then came the new provision, which allowed three months and a half for any man to secure his registration as a voter for life who, while possessing neither the property nor the educational qualifications, could prove that—

"On Jan. 1, 1867, or any date prior thereto, he was entitled to vote under the Constitution or statutes of any State of the United States wherein he then resided, or that he was the son or grandson of some such person not less than twenty-one years of age at the date of the adoption of this Constitution."

"North Carolina followed in August, 1900, by adopting an amendment to the Constitution which requires that the candidate for registration shall be able to read and write any section of the Constitution in the English language, unless he registers as one who was a legal voter on or before Jan. 1, 1867, or as 'a lineal descendant of any such person.' The payment of a poll-tax for the previous year is required, but no property qualification. 'Lineal descendants' are allowed until Dec. 1, 1908, for their registration.

"Two other Southern States—Alabama and Virginia—are preparing to call conventions for the purpose of effecting similar abridgments of the electorate. Georgia defeated the proposition, but in the new Legislature a bill for the same purpose has been introduced.

"In 1890 in Mississippi the colored males of voting age were 150,436 and the white males of

voting age 121,504, a total electorate of 271,940. The workings of the new Constitution reduced the registered colored electors to 16,234 and the registered white electors to 109,337, or a total electorate of 125,571. This is an abridgment of 146,369, or 54 per cent.

"There is a vagueness to these statistics, because it is not shown how many voters eligible to register under the new law failed for reasons other than legal to do so. They show, however, the extent of the abridgment.

"In 1897, under the operations of the old law in Louisiana, we find there was a registration of 164,088 white electors and 130,344 colored electors. Under the new law the registration in 1898 was 74,133 white and 62,402 colored electors. This is an abridgment of the 294,432 voters of 1897 to 136,535, or of 157,897, or 53 per cent.

"Having shown a general abridgment, irrespective of sectional lines, of the electorate in a number of the States, it is of moment to inquire into the manner in which the applications of the penalizing provisions of the fourteenth amendment would affect the representation in Congress. It is the purpose of my resolution to secure information through official channels that is needed. Estimates can be made from incomplete and scattered data, but these are not sufficient for Congress to act upon. From such as have been available I estimate the proportion [percentage?] of males over twenty-one and citizens of the United States who have been disfranchised by the action of the States to be as follows: California, 7.7; Connecticut, 5.3; Delaware, 14.3; Louisiana, 45.8; Maine, 5.5; Massachusetts, 6.2; Mississippi, 40; North Carolina, 35.7; South Carolina, 45; Wyoming, 3.4.

"The Committee on Census has prepared majority and minority reports to this House on this matter. To my mind neither answers the requirements of the Constitution. The majority report is one which is absolutely in defiance of the Constitution in that it makes population alone the basis of representation, while it ignores the fact that in 10 States the electorates have been abridged an average of 21 per cent. The minority report is defective in that, while it is based upon the fourteenth amendment, the information which Congress must have upon the matter before it can proceed has not as yet been gathered. It is incomplete, and therefore unsatisfactory; but it is far preferable to the other, because it attempts, though in a crude fashion, to comply with the requirements of the Constitution."

Mr. Burleigh, in advocating an increase in the membership of the House of Representatives, said:

"I know that there is always a tendency in a legislative body, especially among those who have had long experience in its service and who have been more or less entrusted with the direction of its affairs, to guard jealously its powers and privileges, to be distrustful of changes, and to cling tenaciously to the old-established order of things. While this feeling is not unnatural, it may readily be carried to extremes, and when it reaches a point where those who entertain it are willing to overlook or ignore the facts of progress it may easily become an impediment or a menace to the public welfare. The movement for a contracted House of Representatives—an assembly making no attempt to keep pace with the nation's growth and needs—has had, so far as I have observed, its source and its inspiration in this Capitol and not with the American people. The people of this country demand and they ought to have adequate and efficient representation here, and every measure that tends to widen

the distance between the individual citizen and his Representative in Washington is a contraction of popular power and privilege, and out of harmony with the spirit of our institutions.

"So far from being a source of weakness a strong popular assembly is a source of strength, as the experience of other nations has amply demonstrated. I submit the following table, showing the representation in a number of the leading countries of the world and the ratio which it bears in each instance to population:

COUNTRY.	Population.	Membership in lower house.	Membership in upper house.	Ratio of representation to actual population.
England.....	37,888,439	670	479	53,392
France.....	38,517,975	584	300	65,955
Germany.....	52,279,901	397	58	124,505
Italy.....	29,699,785	508	390	57,000
Spain.....	17,550,216	431	360	50,000
Canada.....	4,329,875	213	81	22,688
United States.....	76,304,799	357	90	213,739

"The comparisons afforded by these figures are certainly striking. We have been so accustomed to think of our land as the home of liberty, and so gradual has been the official usurpation of popular power, that it is somewhat startling for us to come face to face with the fact that there is not to-day a single constitutional monarchy in all Europe whose people do not enjoy vastly more power in national legislation than is possessed by the citizens of the United States. Take a member of the English House of Commons, a member of the French Chamber of Deputies, a member of the lower house of the Spanish Cortes, and a member of the Italian Chamber of Deputies, and their combined constituency is but 226,347—only 17,479 more than the bill reported by the gentleman from Illinois purposes to give to a single Representative of the great American people!"

Mr. Crumpacker made a speech in behalf of his own measure, in which he strengthened the appeal to general principles and to the provisions of the fourteenth amendment by specific illustrations and citations from election statistics. In closing he said:

"Whenever an attempt is made to consider any measure that affects the race question in the South, the unworthy cry of 'sectionalism' is raised. I am only insisting upon the enforcement of the plain mandate of the Constitution, and for that I make no apology to any person or State. Is the Constitution sectional? Are human rights local? If they are, I am justly subject to the reproach of 'sectionalism.' Gentlemen who recently talked themselves into a frenzy of passion over fancied transgressions of the charter of government, ought to willingly assent to the enforcement of its plain provisions in their own States. Gentlemen who hysterically urged the intervention of the Government to protect an inferior race against tyranny and oppression in the distant islands of the sea, should not protest so vehemently upon the suggestion that an inferior race be accorded its plain constitutional rights at home.

"But the question is not sectional. Every State in the Union is vitally interested in it. Inequality is injustice; therefore, it is unjust that one voter in Mississippi should exercise as much power in national affairs as four voters in New York; it is unjust that one vote in South Carolina should count for as much as ten votes in Indiana.

"Besides this, each State is powerfully affected by the customs and institutions in every other

State. Intercourse between the States must be free and unrestricted. Take the industrial situation, for instance. Under existing conditions the standard of living among the colored people of the South is low, and the rate of wages on the same basis. The colored laborer is completely at the mercy of the employer. He is unable to initiate and maintain labor organizations for the protection of his own interests.

"In the State of South Carolina to-day there is a qualified condition of industrial serfdom. Farm laborers are compelled by the penal laws of the State to carry out their contracts of employment, however unjust and unfair they may be. They must perform all 'the labor reasonably required' of them by the contract or go to jail. If any one shall knowingly employ a laborer in any kind of service who is under contract of labor with another, he, too, is liable to fine and imprisonment, though the workman or his family may be on the verge of starvation. Can labor be independent and progressive where such laws exist? Could such laws exist in any State where labor has the freedom of the ballot?

"In recent years a new impulse has been given to manufacturing industries in States where colored labor is abundant. With the natural resources and cheap tractable labor, the field is peculiarly inviting to capital. The employer is free from the annoyances that labor organizations sometimes give in other sections, and with simplified machinery and the coercive force of penal laws, the negro becomes as efficient a factory hand in many lines as the white man. Capital will continue to be attracted by such favorable conditions, and the products of cheap, servile toil will continue to be sold in competition with the products of intelligent, independent labor in other sections of the country. The strength and glory of our civilization abide in the comfortable but unpretentious homes of the independent wage-earners. Shall those homes be invaded by the blighting hand of servility? Shall intelligent labor be debased by such unjust and unholy competition?

"Already cotton-mills in New England have been compelled to reduce wages in order to compete with the cheap labor of Alabama and Georgia. Tariffs can not be imposed for protection, but colored labor must be educated and elevated. The negro must be given political power as fast as he can safely use it if his industrial independence is to be achieved. This is the only remedy. Have other States no interest in this question? Has organized labor no concern about it?

"If the right of suffrage was taken from the white laborer, his independence would soon be lost and the legal safeguards for his protection would disappear from the statute-books. Citizenship is an empty husk without the power to protect and enforce it, and that power is the ballot. The late Mr. Blaine truthfully said, respecting the negro:

"Without the right of citizenship his freedom could be maintained only in name, and without the elective franchise his citizenship would have no legitimate and no authoritative protection."

"No one questions the superiority of the white race, but that superiority is grounded in the rugged virtues of justice and humanity. It is surely no credit to American manhood to bind and shackle a helpless race to avoid the temporary embarrassments that would attend its proper development. Equal rights for all is the strongest sentiment in the American heart.

"I rejoice at the evidences of a stronger bond of unity between all sections of the country; but the ties, if they are to be permanent, must be based upon everlasting principles of right. The

Constitution is the measure of the rights and responsibilities of the States in their mutual relations, and all its essential provisions must be observed."

"Let justice be supreme; give virtue the palm, whether it be in the white man or the black man. Pass suffrage laws as you will, but make them apply to all alike. Give the ebony-hued citizen the same opportunity in the struggles of life as the Anglo-Saxon, and you will have appeased justice and satisfied the conscience of the American people."

The discussion on the right of States to restrict suffrage by imposing qualifications upon voters led to some bitter recriminations, and had in it something of old-fashioned political acrimony. To indicate the drift of the argument, it may be said that the Southern members of Congress met the plea for general justice, and the natural right of the negroes to vote, by the declaration that restriction of the suffrage is absolutely necessary to the security of Southern communities, and that the issue is one involving the very existence of decent and honest government. They met the constitutional argument against restriction of the suffrage, except under penalty of decrease in representation under the terms of the fourteenth amendment, by citing the fifteenth amendment, as modifying the scope of that which preceded it, and allowing restriction of the suffrage for reasons favored at the North, but now adopted as available pretexts at the South. Mr. Kitchin, of North Carolina, said:

"As is well known, immediately after the war, when the fourteenth amendment was adopted, it had in view negro suffrage throughout the South, but it did not attempt to compel it. It held forth an inducement to the States to grant it. That inducement is found in the fourteenth amendment, in the second section, the penalty of reduced representation being declared against States that refused the right of suffrage to the negro race. President Lincoln never wanted negroes to become voters. He recognized that the white race is superior to the black one, and, as he said in his speech at Charlestown, these two races could not live upon terms of equality, that there were physical differences which would prevent them from so living, and since that was a fact he declared himself in favor of assigning the superior position to the white race.

"That sound view was not altogether obliterated when the fourteenth amendment was adopted. But in the days of reconstruction, and as I believe in hostility to the white people of the South, the opinion grew that negro suffrage should be forced upon the people of the eleven Southern States, and so the fifteenth amendment was presented and compelled to be adopted throughout the South by means that can not be approved by honest men, while great States in the North were voting their disapproval of it. Without the compulsory and vicious means used in the South it would not have been adopted. However, as Mr. Boutwell, who had charge of the fifteenth amendment while pending in this body, said, it was designed to carry out the powers placed in Congress by the fifth section of the fourteenth amendment.

"It prescribed that the right to vote should not be denied or abridged on account of race, color, or previous condition of servitude. That was the ultimate purpose of the second section of the fourteenth amendment, which had the penalty of reduction of representation in it. Mr. Speaker, that being the purpose of the fourteenth amendment, and the fifteenth amendment being the enforcement of that purpose, then unless a State violates

the fifteenth amendment Congress has no power to act against her under a fair and reasonable interpretation of these two articles of the Constitution construed together. Mr. Blaine, in his Twenty Years of Congress, says:

"When therefore the nation by subsequent change in its Constitution declared that the State shall not exclude the negro from the right of suffrage, it neutralized and surrendered the contingent right it before held to exclude him from the basis of apportionment. Congress is thus plainly deprived by the fifteenth amendment of certain powers over representation in the South which it previously possessed under the provisions of the fourteenth amendment."

"When the fifteenth amendment says that the States shall not deny or abridge the right to vote on account of race, color, or previous condition of servitude, the mentioning of these three conditions, in my judgment, is an exclusion of all others, and is tacit permission to the States for any other cause than race, color, or previous condition of servitude to abridge or deny the right of suffrage without penalty. The United States Constitution in no wise deprives a State of the right to prescribe qualifications for her voters, nor does it, in my judgment, impose any penalty upon the exercise of that right, and the true meaning of the fifteenth amendment is that if a citizen has the qualifications prescribed by a State, then his right to vote shall not be denied on account of race, color, or previous condition. But I call the attention of the gentleman from Indiana to this proposition, that when the State of Massachusetts has an educational qualification, and the State of Pennsylvania a tax-paying qualification, it is not a denial of the right of suffrage.

"If the gentleman from Indiana will consider, he will find a vast distinction between a denial of a right and the qualifying of that right. The Supreme Court of the United States held that the act of Congress which excludes from the mails newspapers, etc., containing advertisements of lotteries and other lottery information does not abridge the freedom of the press. It is certainly a qualification of it. We frequently have rights which are absolute in themselves, and yet in order to enjoy them we must qualify ourselves. Requiring those who desire appointments to stand a civil-service examination is not a denial of the right to hold office. When we say that a man must be registered before he can vote it is not a denial of the right to vote. We merely tell him that he has the right, but before he can exercise it he must qualify by registering. The law may tell him that he must pay his poll-tax before he can exercise the right he already has. Massachusetts tells him that he must be able to read and write before he can exercise this right, and when Massachusetts imposes the educational qualification upon a voter she has not denied him the right to vote, she has not abridged his right to vote, because, as I gather from the dictionaries, abridgment means to cut off. It practically means the same thing as to deny. You have not cut off a man's right, you have not denied the man's right to vote when you prescribe reasonable qualifications.

"The late Senator Charles Sumner in debating suffrage admitted that knowledge was a proper qualification for a voter. Hon. George S. Boutwell, in answer to a direct question, said that the fifteenth amendment would not prevent property or educational qualifications.

"Mr. Speaker, the State of North Carolina, which has been so greatly misrepresented here, in my judgment, has not denied the right to vote

on account of race, color, or previous condition of servitude. But I will not now discuss this, as during the last session I fully discussed the North Carolina amendment. She has prescribed reasonable qualifications. Chief among them is the educational test, the test that Massachusetts, Wyoming, Connecticut, and other States have. After 1908 no one registers under the so-called 'grandfather' clause for the first time.

"Mr. Speaker, I think that there is a bitter sectional spirit in this proposition to reduce the representation of North Carolina and other States. While the great majority of business men in the North, and, I believe, its best and most patriotic statesmen, bear no sectional spirit hostile to the South, this proposition has shown that many men in the North still are ready to arouse sectionalism and create prejudice against the South. The time has not yet come when the Republican party can be considered the friend of the South. Let those who have thought so consider this proposition and be undeceived. Yet I rejoice that many of the ablest Republican leaders in this House do not encourage this proposition."

Mr. Wilson, of South Carolina, said:

"I want now to talk to the gentleman from Indiana a while. I can not make an argument in full, as I intended, for I have not the time, and I shall thereby be prevented from elaborating the subject as I should wish; but I shall cite him to decisions of the Supreme Court of this country by which he will understand that his ridiculous bill can not for a moment be sustained by that tribunal.

"His bill accords to every State its full number of Representatives except South Carolina, North Carolina, Mississippi, and Louisiana, and from each of these four Southern States he takes three Representatives, his reason for such arbitrary proceeding being that each of these States has denied the right of suffrage to at least 40 per cent. of its inhabitants, and consequently its representation must, under the second clause of the fourteenth amendment to the Constitution, be reduced to that extent.

"That clause provides that when the right to vote at any election for Representatives in Congress, etc., is denied to any male inhabitants of a State twenty-one years of age and citizens of the United States, or in any way abridged, except for participation in rebellion or other crime, the basis of congressional representation therein shall be reduced in proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State.

"The right to vote does not come from the United States, but from the State. The United States Constitution nowhere confers that right. That is explicitly decided in *Minor vs. Happersett* (21 Wall., 166) and *United States vs. Reese* (92 U. S., 215).

"The fifteenth amendment, which declares that the right of citizens of the United States to vote shall not be denied or abridged by the United States or any State on account of race, color, or previous condition of servitude, does not confer the right to vote. Its only meaning, purpose, and effect was this: Before its adoption preference in suffrage could be given by a State to one race over another; a State could have entirely disfranchised the negro. But now, since its adoption, if citizens of one race having certain qualifications are permitted to vote, those of another having the same qualifications must be. The right to vote, therefore, comes from the State, but the fifteenth amendment forbids any discrimination on account

of race. So says United States *vs.* Cruikshank (92 U. S., 544).

"The fourteenth amendment did not change the relations of the State and Federal governments, as held in *re* Kemmler (136 U. S. 436). It did not attempt to confer the right of suffrage upon the negro, but citizenship only, which does not include the right to vote. A woman is a United States citizen, but can not vote. That amendment simply tried to force the States to accord suffrage to the negro by imposing the penalty of loss of representation in Congress, which I have already stated as the second clause. But unfortunately for the bill of the gentleman from Indiana, Congress did not rest content with the fourteenth amendment, but followed it up with the fifteenth, which declared it to be out of the power of a State to disfranchise the negro as such—the very thing which the fourteenth amendment declares shall cut down the State's representation.

"The only thing, therefore, which can reduce a State's number of Representatives is declared by the fifteenth amendment to be an impossible thing; and the gentleman is left high and dry by the last amendment of the Constitution."

Jan. 8 the first section of the Burleigh, or minority bill, was substituted for the first section of the Hopkins, or majority bill, by a vote of 166 yeas to 102 nays, 77 members not voting and 10 answering present. The bill as amended was passed the same day by a vote of 132 yeas to 109 nays, 108 not voting and 6 answering present. The measure was reported in the Senate without amendment Jan. 11, and passed without division or discussion, and it was approved by the President Jan. 16. It is as follows:

"*Be it enacted, etc.,* That after the 3d day of March, 1903, the House of Representatives shall be composed of 386 members, to be apportioned among the several States as follows: Alabama, 9; Arkansas, 7; California, 8; Colorado, 3; Connecticut, 5; Delaware, 1; Florida, 3; Georgia, 11; Idaho, 1; Illinois, 25; Indiana, 13; Iowa, 11; Kansas, 8; Kentucky, 11; Louisiana, 7; Maine, 4; Maryland, 6; Massachusetts, 14; Michigan, 12; Minnesota, 9; Mississippi, 8; Missouri, 16; Montana, 1; Nebraska, 6; Nevada, 1; New Hampshire, 2; New Jersey, 10; New York, 37; North Carolina, 10; North Dakota, 2; Ohio, 21; Oregon, 2; Pennsylvania, 32; Rhode Island, 2; South Carolina, 7; South Dakota, 2; Tennessee, 10; Texas, 16; Utah, 1; Vermont, 2; Virginia, 10; Washington, 2; West Virginia, 5; Wisconsin, 11; and Wyoming, 1.

"SEC. 2. That whenever a new State is admitted to the Union the Representative or Representatives assigned to it shall be in addition to the number 386.

"SEC. 3. That in each State entitled under this apportionment, the number to which such State may be entitled in the Fifty-eighth and each subsequent Congress shall be elected by districts composed of contiguous and compact territory and containing as nearly as practicable an equal number of inhabitants. The said districts shall be equal to the number of the Representatives to which such State may be entitled in Congress, no one district electing more than one Representative.

"SEC. 4. That in case of an increase in the number of Representatives which may be given to any State under this apportionment, such additional Representative or Representatives shall be elected by the State at large, and the other Representatives by the districts now prescribed by law until the Legislature of such State, in the manner herein prescribed, shall redistrict such State; and if there be no increase in the number of Repre-

sentatives from a State the Representatives thereof shall be elected from the districts now prescribed by law until such State be redistricted as herein prescribed by the Legislature of said State; and if the number hereby provided for shall in any State be less than it was before the change hereby made, then the whole number to such State hereby provided for shall be elected at large, unless the Legislatures of said States have provided or shall otherwise provide before the time fixed by law for the next election of Representatives therein.

"SEC. 5. That all acts and parts of acts inconsistent with this act are hereby repealed."

The Cuban and Philippine Policy.—The most important action taken by the Congress in the way of determining national policy was the adoption of two amendments to the army appropriation bill, one dealing with Cuba and the other with the Philippine Islands. This method of securing the passage of measures deemed urgent by a Congressional majority, in cases where separate bills might encounter opposition and fail through delay, was much in vogue at one time; but it fell into disrepute, and was abandoned for years. Little can be said in defense of the revival of the old device, which is essentially fraudulent, as it incorporates in a money bill matter not at all germane to it.

The Cuban amendment was reported, Feb. 25, in the Senate, by Mr. Platt, of Connecticut, from the Committee on Relations with Cuba; and it was to be added to the clause in the army appropriation bill as it had passed the House, providing \$14,000,000 for the pay of enlisted men and \$1,000,000 for additional pay for length of service. It was the last of a series of provisos. The text of it is as follows:

"*Provided further,* That in fulfilment of the declaration contained in the joint resolution approved April 20, 1898, entitled 'For the recognition of the independence of the people of Cuba, demanding that the Government of Spain relinquish its authority and government in the island of Cuba, and to withdraw its land and naval forces from Cuba and Cuban waters, and directing the President of the United States to use the land and naval forces of the United States to carry these resolutions into effect,' the President is hereby authorized to 'leave the government and control of the island of Cuba to its people' so soon as a government shall have been established in said island under a constitution which, either as a part thereof or in an ordinance appended thereto, shall define the future relations of the United States with Cuba, substantially as follows:

"I. That the Government of Cuba shall never enter into any treaty or other compact with any foreign power or powers which will impair or tend to impair the independence of Cuba, nor in any manner authorize or permit any foreign power or powers to obtain by colonization or for military or naval purposes or otherwise lodgment in or control over any portion of said island.

"II. That said Government shall not assume or contract any public debt to pay the interest upon which and to make reasonable sinking-fund provision for the ultimate discharge of which the ordinary revenues of the island, after defraying the current expenses of government, shall be inadequate.

"III. That the Government of Cuba consents that the United States may exercise the right to intervene for the preservation of Cuban independence, the maintenance of a government adequate for the protection of life, property, and individual liberty, and for discharging the obligations with

respect to Cuba imposed by the treaty of Paris on the United States, now to be assumed and undertaken by the Government of Cuba.

"IV. That all acts of the United States in Cuba during its military occupancy thereof are ratified and validated, and all lawful rights acquired thereunder shall be maintained and protected.

"V. That the Government of Cuba will execute, and as far as necessary extend, the plans already devised or other plans to be mutually agreed upon, for the sanitation of the cities of the island, to the end that a recurrence of epidemic and infectious diseases may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the southern ports of the United States and the people residing therein.

"VI. That the Isle of Pines shall be omitted from the proposed constitutional boundaries of Cuba, the title thereto being left to future adjustment by treaty.

"VII. That to enable the United States to maintain the independence of Cuba, and to protect the people thereof, as well as for its own defense, the Government of Cuba will sell or lease to the United States lands necessary for coaling or naval stations at certain specified points, to be agreed upon with the President of the United States.

"VIII. That by way of further assurance the Government of Cuba will embody the foregoing provisions in a permanent treaty with the United States."

The design of this amendment was to influence the Cuban Constitutional Convention to make concessions virtually acknowledging the suzerainty of the United States; and, while professing to repeat and carry out the self-denying joint resolution of April 20, 1898, it smoothes the way to a new policy, if it seems advisable. Several amendments to the amendment were proposed, and defeated; the declaration, as originally reported, was adopted, Feb. 27, by a vote of 43 yeas to 20 nays; not voting, 25. The discussion was brief, and it brought out nothing of importance.

Feb. 25, the amendment in regard to the government of the Philippines was proposed during the consideration of the army appropriation bill in the Senate. It was originally offered by Mr. Spooner, of Wisconsin, adopted by the committee in charge of the appropriation, and amended and passed by the Senate Feb. 27, by a vote of 45 yeas to 27 nays; not voting, 16. The discussion was not prolonged; but various propositions looking to less arbitrary methods were offered and rejected. The amendment as finally passed was as follows:

"All military, civil, and judicial powers necessary to govern the Philippine Islands, acquired from Spain by the treaties concluded at Paris on the 10th day of December, 1898, and at Washington on the 7th day of November, 1900, shall, until otherwise provided by Congress, be vested in such person and persons and shall be exercised in such manner as the President of the United States shall direct, for the establishment of civil government and for maintaining and protecting the inhabitants of said islands in the free enjoyment of their liberty, property, and religion: *Provided*, That all franchises granted under the authority hereof shall contain a reservation of the right to alter, amend, or repeal the same.

"Until a permanent government shall have been established in said archipelago full reports shall be made to Congress on or before the first day of each regular session of all legislative acts and proceedings of the temporary government instituted under the provisions hereof; and full reports of the acts and doings of said government, and as to the

condition of the archipelago and of its people, shall be made to the President, including all information which may be useful to the Congress in providing for a more permanent government: *Provided*, That no sale or lease or other disposition of the public lands or the timber thereon or the mining rights therein shall be made: *And provided further*, That no franchise shall be granted which is not approved by the President of the United States, and is not in his judgment clearly necessary for the immediate government of the islands and indispensable for the interests of the people thereof, and which can not, without great public mischief, be postponed until the establishment of permanent civil government; and all such franchises shall terminate one year after the establishment of such permanent civil government."

The House of Representatives, on March 1, adopted, with reference to these amendments, the usual expedient for rushing through legislation; and a privileged report was made from the Committee on Rules, to the effect that it be in order to take the army appropriation bill from the table immediately, and move concurrence in the Senate amendments in gross; that the previous question be considered as ordered after two hours' discussion; and that a vote be then taken without delay or intervening motion. On this report the previous question was called, and ordered by a vote of 130 yeas to 120 nays; present 4, and not voting 90. Under the rules, fifty minutes were allowed for the discussion of the report, and at the end of that time it was adopted by a vote of 145 yeas to 127 nays; present 4, and not voting 77. The two hours' debate on concurring in the Senate amendments followed.

In the nature of the case there could be little in the discussion beyond a mere expression of opinion. Mr. Gibson, of Tennessee, said:

"Mr. Speaker, the provisions of this bill in reference to Cuba and the Philippines are wise and salutary both for the people of the United States and for the people of those islands.

"First, as to Cuba, the Senate amendment is timely and prudent. While we stand pledged to recognize the independence of Cuba, we do not stand pledged to allow it to become again the seat of disorder, the propagator of the plague, the prey of foreign powers, and the base of attack upon our own country; and in giving Cuba her independence we must couple with the gift such conditions that, while not harming her, will make us safe. We propose that Cuba's independence shall be a shield to protect her and not a sword to hurt us.

"Speaking for myself, I feel free to say that when I voted three years ago that the people of Cuba were 'free and independent' I did not so vote because I believed it, but because it was embedded in a resolution requiring Spain to leave the island and directing the President of the United States to drive her out if she refused to go; and I, along with many other members of this House, swallowed the bitter with the sweet, voting for what we did not believe, to get what we wanted—that is, to force Spain to leave Cuba.

"I do not believe that the Cubans are fit for self-government, and so I do not want us to turn the island completely over to them until they demonstrate their capacity to rule their island wisely and well, so that life, liberty, property, and the pursuit of happiness shall be secured to all under good laws properly administered.

"Indeed, if the people of Cuba are wise and prudent, they would be glad to have our Government exercise a sort of mild guardianship for a short time; and the fact that so many of their

leaders seem devoid of all gratitude to the United States for the many millions of dollars we have spent in their behalf makes me suspicious of what Cuba's fate may be when wholly committed to their hands.

"I want Cuba fairly treated; but I want my own country fairly treated also. What have we done for Cuba? We found her people dying of starvation in prison pens, or slaughtered by a merciless foreign soldiery; and we have driven out these soldiers, opened the prison doors, and made every Cuban free, and fed them generously from our own table. We found the Cubans deprived of all voice in their own government, and we have turned their oppressors out of power and given all of the municipal offices to the Cubans themselves.

"We found Cuba desolated by fire and sword from one end of the island to the other, and we have brought peace and law and order, and opened to every man full opportunity to honorably and easily earn his own living. In a word, Mr. Speaker, we found Cuba a hell, and we are fast converting it into a paradise.

"And shall we have no right to guard this island and see to it that disorder shall not take the place of order, and see to it that the island, by unwise treaties, be not given over to our enemies, and to see to it that the yellow fever does not use its shores as a base from which to invade our country and destroy our people?

"This is all that the Senate amendment proposes to do, and if we should let Cuba go out of our hands without guarantees for our own protection, we should be derelict in duty, false to our own people, and deficient in that foresight which belongs to prudent statesmanship.

"Next, as to the Philippines. The Senate amendment proposes to give the President general authority to govern the Philippine Islands. I do not propose to discuss this amendment in detail. It is sufficient for me to call attention to the fact that it is, in substance, the same as the authority given by Congress to President Jefferson to govern Louisiana, and to President Monroe to govern Florida; and if it was no crime in those Congresses to grant such power, surely it can be no crime in this Congress. Jefferson was the founder of the Democratic party, and James Monroe was one of its great apostles, and yet it was deemed all right in their day to grant them full power to govern Louisiana and Florida, then newly acquired foreign territory."

Mr. Lentz, of Ohio, said:

"Mr. Speaker, to be or not to be free is the question Cuba is asking in the beginning of 1901, just as she was asking this question about three years ago. But when she was asking it in 1898 she had in mind the question of freedom from a hereditary despot. To-day asking it she has in mind the tyranny of a majority, and that majority having been secured by bribery and falsehood and other means of corrupting the voters of the land. To lie or not to lie is the question before the American people. We told Cuba and the world that our war against Spain was neither for conquest nor for the acquisition of territory, but purely in the cause of liberty and humanity. In that declaration we gave the Filipinos, just as much as the Cubans, a bond that we would use our strong arm to secure for them the right of self-government. Why is it that those who are now fattening in the land because this Government keeps its bond to pay principal and interest on Government debts express no concern or solicitude whatever that this solemn bond should be kept, as we pledged ourselves to do on that night when we

declared that the people of Cuba 'are, and of right ought to be, free.'

"I am not alone concerned about the justice of our own character and reputation in this betrayal of the people of Cuba and of the Philippine Islands, but I am much more concerned about the gradual dry-rot that is taking place in the American conscience. We could afford to be guilty of sacrificing unnecessarily some of our young manhood, but we can not afford to violate practically all of the ten commandments in this brutal and murderous warfare which we are making in the Philippine Islands. The lack of moral growth and the absolute hardening and degrading of American conscience that is manifest to-day is the greatest menace to American liberty and American progress that this republic has ever seen. The encroachment made upon liberty by Nicholas Biddle and his greedy associates in the days of Andrew Jackson and the threatened destruction of the Union by the slavocracy in the day of Abraham Lincoln are diseases of minor importance when compared with the tyranny and criminal aggression now manifest in every act and every word of those who favor the present policy of the Federal Government."

Mr. Littlefield, of Maine, who may be considered as representing more moderate opinions, said:

"Mr. Speaker, this bill, as the House is compelled to act upon it, is a striking illustration of a most vicious and iniquitous practise in national legislation. An army bill which must be passed in order to provide for absolutely necessary expenditures comes down from the Senate with a large number of amendments which originated in the Senate, and in order to pass the bill under the rule just adopted we are compelled to vote for all the amendments whether they do or do not meet our approval. This is a method invariably adopted for securing the passage of obnoxious measures which otherwise would not meet with the approval of the House. The principal measure is simply used as a vessel to sustain cargoes that otherwise would sink of their own weight.

"This bill has two amendments of great moment, of far-reaching consequences, that have never been considered by any committee on the part of the House, and must be accepted after only two hours of debate. One relates to the Philippine Archipelago, one to Cuba. While I have grave doubts as to our constitutional right to delegate legislative power, as is clearly contemplated by the Philippine amendment, I should vote for the bill with this amendment if I could do so without at the same time being obliged to vote for the Cuban amendment, in which I do not believe. The Philippine amendment contemplates a change from military rule to civil rule, and is an advance over existing conditions. It does not add to, but limits executive power.

"I am firmly of the opinion that the person or persons that may discharge the duties devolved upon them by this amendment will be restrained and controlled therein by all of the constitutional limitations and guarantees protecting life, liberty, and property. I do not for a moment believe that they can, even if they desired, exercise absolute, arbitrary, autocratic power. We may have occasion to remember that by this amendment we legislate for the Philippines. While I should vote for this amendment if it stood alone, I believe that a form of Territorial government following the lines of the Territorial governments created for Louisiana in 1804 and Florida in 1822, would, from every consideration, be much more desirable. It would commit us to nothing to which this amendment does not commit us, and it could not

fail to be a much more potent influence in securing peace in the archipelago—a consummation certainly most 'devoutly to be wished.'

"The Cuban amendment does not seem to me to be in accord with the solemnly declared and frequently reiterated policy of the republic relative to Cuba. Besides this, it practically assumes grave responsibilities which do not now exist. The position which the republic now sustains to Cuba is, I believe, fairly and truthfully stated by the Supreme Court in the opinion in the Neely case, in which the court says unanimously, speaking through Mr. Justice Harlan:

"The legislative and executive branches of the Government, by the joint resolutions of April 20, 1898, expressly disclaimed any purpose to exercise sovereignty, jurisdiction, or control over Cuba, 'except for the pacification thereof,' and asserted the determination of the United States, that object being accomplished, to leave the government and control of Cuba to its own people. All that has been done in relation to Cuba has had that end in view; and, so far as the court is informed by the public history of the relations of this court with that island, nothing has been done inconsistent with the declared object of the war with Spain."

"Again, giving a perspicuous judicial statement of the clear duty of the United States in this exigency:

"But as between the United States and Cuba, that island is territory held in trust for the inhabitants in Cuba, to whom it rightfully belongs, and to whose exclusive control it will be surrendered when a stable government shall have been established by their voluntary action."

"The Cuban amendment, which is said to contain our ultimatum to Cuba, does not, in my opinion, contemplate surrendering 'exclusive control' of Cuba to the 'inhabitants of Cuba,' for whom the territory is now 'held in trust,' when a stable government shall have been established by their voluntary action'; but, on the contrary, it seems to me that it clearly intends to perpetuate our control over the island and its inhabitants."

The motion to concur in the Senate amendments was carried by a vote of 161 yeas to 127 nays; present 4, not voting 51. The army appropriation bill was approved by the President March 2, 1901.

Tax Reduction.—A measure to amend "the act to provide ways and means to meet war expenditures and for other purposes," passed June 18, 1898, and to reduce taxation thereunder, was reported in the House by Mr. Payne, of New York, chairman of the Committee on Ways and Means, early in the session. It was designed to cut down the revenue to the extent of \$30,000,000 a year. The Democratic minority held the opinion that the reduction should be at \$70,000,000; and there was, moreover, a sharp difference of opinion as to the particular taxes to be abolished or reduced. Mr. Payne, after explaining the scope of the measure, and giving in detail the reasons for the various changes proposed, said:

"Now, Mr. Speaker, I submit to the House and to the committee with confidence that we have done the right thing and gone to the last dollar that we should go in this bill in the reduction of war revenue. The minority of the committee say that we should make a reduction of \$70,000,000. They do not give any reason for it. They do not present any bill to the House in their report as a substitute for the one we have presented here.

"It is only a short time ago that the minority of the committee contended that all this war-revenue tax should go, and in place thereof there

should be an income tax to be levied upon the incomes of the country, overlooking the fact that there is now upon the statute-books the Wilson income-tax law, which has never been repealed because the decision of the Supreme Court has destroyed it, and forgetting that if the new income-tax law went before the Supreme Court to-day they would have the same court and the same decision that they had on the Wilson bill. Why, they have even dared to pose before the country—a portion of them—in favor of going into a lawsuit to raise revenues to supply the deficiencies in the Treasury which the \$105,000,000 reduction would leave, in order to get enough revenue to run the Government.

"Well, now, this side does not believe in any such financial legislation as that. They propose in their report to take more of the tax off beer. They gave no reason for it. And they would take the tax off tobacco until they reduce the revenue by \$70,000,000. I do not know but what that is the Democratic doctrine. I remember under the Wilson bill that we met a deficiency every 30th day of June. I do not know but what that is the financing of the Democratic party when they come in here to-day and ask us to face a deficiency in June, 1902, by taking off \$70,000,000 of revenue.

"Oh, they say, the revenues are increasing. Yes, but the increased revenue is because of the increased prosperity of the country. You have been predicting that the time would soon come when that prosperity would cease. Still you propose to reduce the war taxation on the theory that that prosperity is to continue during the next four years. Well, I believe it will, so far as our domestic matters are concerned, and any internal arrangement confined to the people of this country. I believe it will continue four years as it has in the past; but there may be some complications abroad that will stop it, and you do not take that into consideration.

"I do not want to see any deficit in the revenues of the country. Gentlemen say you have a large surplus in the Treasury. So we have—\$140,000,000; not all available—probably \$120,000,000 of it available. They say that will be increased by the 30th of June. So it will. But is it a part of your statesmanship to foster and keep that in the Treasury against a future deficiency, and then go to work deliberately and create that deficiency? Gentlemen must remember that this decrease in the revenue laws does not begin until the first of the next year, and it will operate only for a reduction upon the remainder of the fiscal year and have small effect upon the amount of money in the Treasury up to the 30th of June next. It is for the future that we are looking out. It is for the years 1902 and 1903, and when we look to them I believe we have gone to the limit of safety in reducing the war-taxes. We are unwilling for the committee to go any further in that reduction and run any risk on that account.

"What are we going to do with the money in the Treasury? We are going to adopt the good old-fashioned Republican way of paying debts with the money in the Treasury."

It was proposed to amend the bill by removing the tax on tea; and in support of that policy Mr. Glynn, of New York, said:

"This demand for a reduction of the tax on tea, Mr. Chairman, comes from every cottage in the land, from every breakfast table, every dinner table, every supper table, from every tea party, where the neighborhood is roasted, friends criticized, and the world remodeled over a steaming cup of tea. It also comes from the circles of the

four hundred, whose five o'clock teas are losing their pinkish tint on account of the extra 10 cents a pound put on tea by the war-revenue act.

"Right here and now, Mr. Chairman, I desire to call the attention of the members of this House to a few scientific facts. Prof. Johnstone says that 'tea exhilarates without sensibly intoxicating.' The beverage doing that is a good beverage and is entitled to such legislation as will give the people the greatest amount of it for the least money. Prof. Johnstone also says that 'tea excites the brain, increases activity, and produces wakefulness.' Now, the beverage doing that is good for a Congressman to drink in large quantities, and should be as cheap as possible. For the sake of his constituents a Congressman needs a clear brain and lots of activity, and for his own sake he needs some beverage to keep him awake during some of the ponderous Websterian speeches in this House, and for this reason, again, am I in favor of cutting down the tax on tea.

"Moreover, Mr. Chairman, it needs no argumentation to prove that the ladies of our land— young maids, old maids, and housewives—are in favor of reducing this tax on tea. The young maids because it makes cheaper the beverage of their society spree and social *tête-à-têtes*; the old maids—and God bless them, for Robert Louis Stevenson was right when he called them the dearest dears on earth—because it makes less expensive their matutinal sipping and their night-cap quaffing of the drink that makes them dream of those saddest words of tongue or pen, 'It might have been'; and the housewives, as one of them wrote me the day before yesterday, because the tea-leaves with which she keeps down the dust when she sweeps her parlor carpet are costing too much, and the tax on leaves used to keep down the dust ought to be lowered, instead of a tax being kept on to raise 'the dust' for a useless surplus.

"Do not think, Mr. Chairman, I am trying to make a funny speech, but if any comparison can serve to show the inconsistency of some of the reductions proposed in this bill I do not intend to hesitate in making use of them. Just think of it! The proposition is made to abolish the \$100 tax placed on the proprietors of a circus, and to keep the tax of 10 cents a pound on tea. In other words, the committee proposes to take the tax off the elephant that 'walks around the ring' and the monkey that 'chatters in the cage,' and to keep the tax on the cup of tea consumed at meals. No one has heard of the price of admission to circuses being raised by the war-tax, and even if it were the people could stand it, for the circus, like Christmas, comes but once a year, while tea time comes three times a day. If we need revenue, would it not be well to keep the tax on circuses, and to place it on things like the circus, and allow tea to go free.

"Yes, Mr. Chairman, between tea and the circus, I am in favor of tea, and I want to remind those who differ with me that part of the revenue we lose on free tea will come back to us through the tax which we have lately placed on oleomargarine. This House did a good thing for the farming interests of the country when it voted to place a tax on oleo. It would duplicate this good act by doing something to relieve the tax on tea.

"It is useless to contend that the tea trade of the country is in favor of this tax being kept on tea. Why, sir, nearly every tea merchant and wholesale grocer in my district has petitioned me to urge an abolition of the tax on tea. Does that look as if the tea trade of the country is in favor of the tax?

"Only this morning, sir, I received a letter from a large tea importer in which he states that a continuation of this tax will ruin his business, and urges a fight for the reduction of the tax. Does that look as if the trade favored the tax on tea? Do the people want it, think you, gentlemen of the majority of the Ways and Means Committee? Is any one of you bold enough to contend that the people at large are in favor of this tax? If so you are brave enough to argue that the people are anxious to pay 10 cents a pound more for tea than they would have to pay for it were this tax abolished. This tax was imposed as a war measure.

"The majority tell us that the war is over. If it is, the war-tax should go, especially upon the articles consumed the most by the masses in everyday life. As a nation we are crying for trade with China and Japan, but yet we persist in placing a large tax upon the article of which they raise most, of which we raise little or none, and which our people use every day of their lives. It is proposed to do away with the taxes on proprietary medicines, telephone and telegraph messages, bank checks, bills of exchange, etc.; it is proposed to reduce the tax on beer.

"Of all these am I in favor. In fact, I would go further than this bill proposes to go in the reduction of the tax on beer. Every fair-minded person must admit that beer is paying a pretty heavy proportion of taxation. Outside of the war-tax added for the Spanish War beer pays into the United States Treasury \$40,000,000 a year. On account of the additional Spanish War tax beer has lately been paying a tax of \$80,000,000—a sum which is one-third of the whole war-tax and one-fourth of the internal-revenue taxes. Beer undoubtedly should pay a large tax, but it seems hardly fair that any one industry should be obliged to bear such a large share of taxation. Now, as to tea, Mr. Chairman, I believe in abolishing the tax completely. But some of the gentlemen of this House argue that we need the revenue produced by the tax on tea. I contend that we have no such need.

"At the present time this country has an annual excess of revenue of \$80,000,000 above the present immense expenditures, a reserve fund of \$150,000,000, and a balance of \$140,000,000 in the Treasury. With this grand showing there is no necessity for keeping the war-taxes as high as the majority contend. Moreover, Mr. Chairman, it should be remembered, when considering the provisions of this bill, that the surplus in the Treasury would have been increased \$20,000,000 or \$30,000,000 more were it not for the large amount paid out of the Treasury during the past six months. We should abolish all possible of these war-taxes not only to relieve the people, but also to prevent a piling up in the Treasury of current funds which should be in circulation for the good of the business interests of the country.

"Now, Mr. Chairman, if this bill becomes a law in its present shape, its friends admit that on June 30, 1902, there will be a surplus in the United States Treasury of \$206,000,000. This seems to be conservatism run wild. A surplus, and a fair one, we should have at all times, but at no time should it be allowed to grow so large that its creating is a burden upon the people, and a useless withdrawal into the United States Treasury of money that ought to be in circulation through the business channels of the country. It has been said that the people less governed are the best governed, and this assertion is most forceful when applied to the payment of taxes. The less of them the better, and only so much of them as is neces-

sary for a proper maintenance of the Government, its protection, its welfare, and its safety should be collected. For none of these is needed such an abundance of taxes as piles up a useless surplus."

The bill passed the House of Representatives Dec. 15, 1900, and it was reported in the Senate with an amendment by way of substitute which passed Feb. 6, 1901. The House disagreed with the Senate amendments, and a conference committee was appointed. A report was made Feb. 28, and adopted. It retained the form of the original House bill, but accepted some of the changes of rates made in the Senate amendments. The measure was approved by the President, March 2, 1901, in the following form:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 1 of the act entitled 'An Act to provide ways and means to meet war expenditures, and for other purposes,' approved June 13, 1898, is hereby amended so as to read as follows:

*"That there shall be paid, in lieu of the tax of \$1 now imposed by law, a tax of \$1.60 on all beer, lager beer, ale, porter, and other similar fermented liquors, brewed or manufactured and sold, or stored in warehouse, or removed for consumption or sale, within the United States, by whatever name such liquors may be called, for every barrel containing not more than 31 gallons; and at a like rate for any other quantity or for the fractional parts of a barrel authorized and defined by law. And section 3339 of the Revised Statutes is hereby amended accordingly: *Provided*, That in lieu of or in addition to the present requirements of law in that respect, all stamps used for denoting the tax upon fermented liquors or other taxes may, in the discretion of the Commissioner of Internal Revenue, be canceled by perforations to be made in such manner and form as the commissioner may by regulations prescribe."*

"SEC. 2. That section 2 of said act is hereby amended so as to read as follows:

"SEC. 2. That special taxes shall be, and hereby are, imposed annually as follows—that is to say:

*"1. Bankers using or employing a capital not exceeding the sum of \$25,000 shall pay \$50; when using or employing a capital exceeding \$25,000, for every additional \$1,000 in excess of \$25,000, \$2, and in estimating capital surplus shall be included. The amount of such annual tax shall in all cases be computed on the basis of the capital and surplus for the preceding fiscal year. In the case of bankers who were not in business in the preceding fiscal year the tax shall be computed on the capital at the time of commencing business. Every person, firm, or company, and every incorporated or other bank, having a place of business where credits are opened by the deposit or collection of money or currency, subject to be paid or remitted upon draft, check, or order, or where money is advanced or loaned on stocks, bonds, bullion, bills of exchange, or promissory notes, or where stocks, bonds, bullion, bills of exchange, or promissory notes are received for discount or sale, shall be a banker under this act: *Provided*, That any savings-bank having no capital stock, and whose business is confined to receiving deposits and loaning or investing the same for the benefit of its depositors, and which does no other business of banking, shall not be subject to this tax."*

"2. Brokers shall pay \$50. Every person, firm, or company, whose business it is to negotiate purchases or sales of stocks, bonds, exchange, bullion, coined money, bank-notes, promissory notes, or other securities for themselves or others,

*shall be regarded as a broker: *Provided*, That any person having paid the special tax as a banker shall not be required to pay the special tax as a broker."*

"3. Pawnbrokers shall pay \$20. Every person, firm, or company whose business or occupation it is to take or receive, by way of pledge, pawn, or exchange, any goods, wares, or merchandise, or any kind of personal property whatever, as security for the repayment of money loaned thereon, shall be deemed a pawnbroker."

"4. Custom-house brokers shall pay \$10. Every person, firm, or company whose occupation it is, as the agent of others, to arrange entries and other custom-house papers, or transact business at any port of entry relating to the importation or exportation of goods, wares, or merchandise, shall be regarded as a custom-house broker."

*"5. Proprietors of theaters, museums, and concert halls in cities having more than 25,000 population as shown by the last preceding United States census, shall pay \$100. Every edifice used for the purpose of dramatic or operatic or other representations, plays, or performances, for admission to which entrance money is received, not including halls rented or used occasionally for concerts or theatrical representations, shall be regarded as a theater: *Provided*, That whenever any such edifice is under lease at the passage of this act, the tax shall be paid by the lessee, unless otherwise stipulated between the parties to said lease."*

*"6. The proprietor or proprietors of circuses shall pay \$100. Every building, space, tent, or area where feats of horsemanship or acrobatic sports or theatrical performances are exhibited shall be regarded as a circus: *Provided*, That no special tax paid in one State, Territory, or the District of Columbia shall exempt exhibitions from the tax in another State, Territory, or the District of Columbia, and but one special tax shall be imposed for exhibitions within any one State, Territory, or District."*

*"7. Proprietors or agents of all other public exhibitions or shows for money not enumerated in this section shall pay \$10: *Provided*, That a special tax paid in one State, Territory, or the District of Columbia shall not exempt exhibitions from the tax in another State, Territory, or the District of Columbia, and but one special tax shall be required for exhibitions within any one State, Territory, or the District of Columbia."*

"8. Proprietors of bowling-alleys and billiard rooms shall pay five dollars for each alley or table. Every building or place where bowls are thrown or where games of billiards or pool are played, and that are open to the public with or without price, shall be regarded as a bowling-alley or a billiard room, respectively."

"SEC. 3. That the internal-revenue tax on cigars weighing more than 3 pounds per 1,000 shall be \$3 per 1,000; and the tax on cigars weighing not more than 3 pounds per 1,000 shall be 18 cents per pound, and on cigarettes weighing not more than 3 pounds per 1,000 and of a wholesale value or price of not more than \$2 per 1,000 shall be 18 cents per pound; and the tax on cigarettes weighing not more than 3 pounds per 1,000 and of a wholesale value or price of more than \$2 per 1,000 shall be 36 cents per pound; and all such cigars and cigarettes weighing not more than 3 pounds per 1,000 shall for purposes of taxation be held and considered as weighing 3 pounds."

"SEC. 4. That there shall be allowed a discount of 20 per centum on all sales by collectors to

manufacturers of tobacco and snuff upon the stamps provided for the payment of internal-revenue taxes upon manufactured tobacco and snuff: *Provided*, That in addition to the packages of smoking tobacco now authorized by law there shall be packages of 2 ounces, 3 ounces, and 4 ounces: *And provided further*, That on all original and unbroken factory packages of smoking and manufactured tobacco and snuff, and cigars, held by manufacturers or dealers at the time such discount or reduction of tax shall go into effect, upon which the tax has been paid, there shall be allowed a drawback or rebate of the full amount of such discount or reduction of tax, but the same shall not apply in any case where the claim has not been presented within sixty days following the date of the reduction; and no claim shall be allowed or drawback paid for a less amount than \$10. It shall be the duty of the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to adopt such rules and regulations and to prescribe and furnish such blanks and forms as may be necessary to carry this section into effect.

"SEC. 5. That section 6 of said act is hereby amended by striking out the words 'medicines, preparations, matters, and things,' in the last paragraph of said section, and inserting in lieu thereof the word 'wines,' so that the section as amended shall read as follows:

"ADHESIVE STAMPS.

"SEC. 6. That on and after the 1st day of July, 1898, there shall be levied, collected, and paid, for and in respect of the several bonds, debentures, or certificates of stock and of indebtedness, and other documents, instruments, matters, and things mentioned and described in Schedule A of this act, or for or in respect of the vellum, parchment, or paper upon which such instruments, matters, or things, or any of them, shall be written or printed by any person or persons, or party who shall make, sign, or issue the same, or for whose use or benefit the same shall be made, signed, or issued, the several taxes or sums of money set down in figures against the same, respectively, or otherwise specified or set forth in the said schedule.

"And there shall also be levied, collected, and paid, for and in respect to the wines mentioned and described in Schedule B of this act, manufactured, sold, or removed for sale, the several taxes or sums of money set down in words or figures against the same, respectively, or otherwise specified or set forth in Schedule B of this act."

"SEC. 6. That section 9 of said act is hereby amended by striking out the proviso, so that the section as amended shall read as follows:

"SEC. 9. That in any and all cases where an adhesive stamp shall be used for denoting any tax imposed by this act, except as hereinafter provided, the person using or affixing the same shall write or stamp thereupon the initials of his name and the date upon which the same shall be attached or used, so that the same may not again be used. And if any person shall fraudulently make use of an adhesive stamp to denote any tax imposed by this act without so effectually canceling and obliterating such stamp, except as before mentioned, he, she, or they shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than \$50 nor more than \$500, or be imprisoned not more than six months, or both, at the discretion of the court."

"SEC. 7. That section 13 of said act is hereby amended by striking out the words 'Schedule A of,' and also by inserting in the first proviso,

after the words 'bonds, debentures, or certificates of stock or of indebtedness,' the words 'or any instrument, document, or paper of any kind or description whatsoever mentioned in Schedule A of this act'; so that said section as amended shall read as follows:

"SEC. 13. That any person or persons who shall register, issue, sell, or transfer, or who shall cause to be issued, registered, sold, or transferred, any instrument, document, or paper of any kind or description whatsoever mentioned in this act, without the same being duly stamped, or having thereupon an adhesive stamp for denoting the tax chargeable thereon, and canceled in the manner required by law, with intent to evade the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding \$50, or by imprisonment not exceeding six months, or both, in the discretion of the court; and such instrument, document, or paper, not being stamped according to law, shall be deemed invalid and of no effect: *Provided*, That hereafter, in all cases where the party has not affixed to any instrument the stamp required by law thereon at the time of issuing, selling, or transferring the said bonds, debentures, or certificates of stock or of indebtedness, or any instrument, document, or paper of any kind or description whatsoever mentioned in Schedule A of this act, and he or they, or any party having an interest therein, shall be subsequently desirous of affixing such stamp to said instrument, or, if said instrument be lost, to a copy thereof, he or they shall appear before the collector of internal revenue of the proper district, who shall, upon the payment of the price of the proper stamp required by law, and of a penalty of ten dollars, and, where the whole amount of the tax denoted by the stamp required shall exceed the sum of \$50, on payment also of interest, at the rate of 6 per centum on said tax from the day on which said stamp ought to have been affixed, affix the proper stamp to such bond, debenture, certificate of stock or of indebtedness or copy, or instrument, document or paper of any kind or description whatsoever mentioned in Schedule A of this act, and note upon the margin thereof the date of his so doing and the fact that such penalty has been paid; and the same shall thereupon be deemed and held to be as valid to all intents and purposes as if stamped when made or issued: *And provided further*, That where it shall appear to said collector, upon oath or otherwise, to his satisfaction, that any such instrument has not been duly stamped, at the time of making or issuing the same, by reason of accident, mistake, inadvertence, or urgent necessity, and without any wilful design to defraud the United States of the stamp, or to evade or delay the payment thereof, then and in such case, if such instrument, or, if the original be lost, a copy thereof, duly certified by the officer having charge of any records in which such original is required to be recorded, or otherwise duly proved to the satisfaction of the collector, shall, within twelve calendar months after the making or issuing thereof, be brought to the said collector of internal revenue to be stamped, and the stamp tax chargeable thereon shall be paid, it shall be lawful for the said collector to remit the penalty aforesaid and to cause such instrument to be duly stamped. And when the original instrument, or a certified or duly proved copy thereof, as aforesaid, duly stamped so as to entitle the same to be recorded, shall be presented to the clerk, register, recorder, or other officer having charge of the original record, it shall be lawful for such

officer, upon the payment of the fee legally chargeable for the recording thereof, to make a new record thereof, or to note upon the original record the fact that the error or omission in the stamping of said original instrument has been corrected pursuant to law; and the original instrument or such certified copy, or the record thereof, may be used in all courts and places in the same manner and with like effect as if the instrument had been originally stamped: *And provided further*, That in all cases where the party has not affixed the stamp required by law upon any such instrument issued, registered, sold, or transferred at a time when and at a place where no collection district was established, it shall be lawful for him or them, or any party having an interest therein, to affix the proper stamp thereto, or, if the original be lost, to a copy thereof. But no right acquired in good faith before the stamping of such instrument, or copy thereof, as herein provided, if such record be required by law, shall in any manner be affected by such stamping as aforesaid.

"SEC. 8. That Schedule A of said act is hereby amended so as to read as follows:

"SCHEDULE A.—STAMP TAXES.

"1. Bonds, debentures, or certificates of indebtedness issued after the 1st day of July, anno Domini 1898, by any association, company, or corporation, on each \$100 of face value or fraction thereof, 5 cents, and on each original issue, whether on organization or reorganization, of certificates of stock by any such association, company, or corporation, on each \$100 of face value or fraction thereof, 5 cents, and on all sales, or agreements to sell, or memoranda of sales or deliveries or transfers of shares or certificates of stock in any association, company, or corporation, whether made upon or shown by the books of the association, company, or corporation, or by any assignment in blank, or by any delivery, or by any paper or agreement or memorandum or other evidence of transfer or sale whether entitling the holder in any manner to the benefit of such stock, or to secure the future payment of money or for the future transfer of any stock, on each hundred dollars of face value or fraction thereof, 2 cents: *Provided*, That in case of sale where the evidence of transfer is shown only by the books of the company the stamp shall be placed upon such books; and where the change of ownership is by transfer certificate the stamp shall be placed upon the certificate; and in cases of an agreement to sell or where the transfer is by delivery of the certificate assigned in blank there shall be made and delivered by the seller to the buyer a bill or memorandum of such sale, to which the stamp shall be affixed; and every bill or memorandum of sale or agreement to sell before mentioned shall show the date thereof, the name of the seller, the amount of the sale, and the matter or thing to which it refers. And any person or persons liable to pay the tax as herein provided, or any one who acts in the matter as agent or broker for such person or persons, who shall make any such sale, or who shall in pursuance of any such sale deliver any such stock, or evidence of the sale of any such stock or bill or memorandum thereof, as herein required, without having the proper stamps affixed thereto, with intent to evade the foregoing provisions, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than \$500 nor more than \$1,000, or be imprisoned not more than six months, or both, at the discretion of the court.

"2. Upon each sale, agreement of sale, or

agreement to sell any products or merchandise at any exchange, or board of trade, or other similar place, either for present or future delivery, for each \$100 in value of said sale or agreement of sale or agreement to sell, 1 cent, and for each additional \$100 or fractional part thereof in excess of \$100, 1 cent: *Provided*, That on every sale or agreement of sale or agreement to sell as aforesaid there shall be made and delivered by the seller to the buyer a bill, memorandum, agreement, or other evidence of such sale, agreement of sale, or agreement to sell, to which there shall be affixed a lawful stamp or stamps in value equal to the amount of the tax on such sale. And every such bill, memorandum, or other evidence of sale or agreement to sell shall show the date thereof, the name of the seller, the amount of the sale, and the matter or thing to which it refers; and any person or persons liable to pay the tax as herein provided, or any one who acts in the matter as agent or broker for such person or persons, who shall make any such sale or agreement of sale, or agreement to sell, or who shall, in pursuance of any such sale, agreement of sale, or agreement to sell, deliver any such products or merchandise without a bill, memorandum, or other evidence thereof as herein required, or who shall deliver such bill, memorandum, or other evidence of sale, or agreement to sell, without having the proper stamps affixed thereto, with intent to evade the foregoing provisions, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than \$500 nor more than \$1,000, or be imprisoned not more than six months, or both, at the discretion of the court: *Provided*, That no bill, memorandum, agreement, or other evidence of such sale, or agreement of sale, or agreement to sell, in case of products or merchandise actually delivered to, and while in vessel, boat, or car, and actually in course of transportation, shall be subject to this tax, provided such bill, memorandum, agreement, or other evidence of such sale, or agreement of sale, or agreement to sell shall be accompanied by bills of lading or vouchers showing that the said products are actually in course of transportation as aforesaid.

"3. From and after the 1st day of April, 1901, every person, association, copartnership, or corporation who or which shall in his, its, or their own behalf, or as agent, engage in the business of making or offering to make contracts, agreements, trades, or transactions respecting the purchase or sale, or purchase and sale, of any grain, provisions, raw or unmanufactured cotton, stock, bonds, or other securities wherein both parties thereto, or such person, association, copartnership, or corporation above named, contemplate or intend that such contracts, agreements, trades, or transactions shall be or may be closed, adjusted, or settled according or with reference to the public market quotations of prices made on any board of trade or exchange upon which the commodities or securities referred to in said contracts, agreements, trades, or transactions are dealt in, and without a *bona fide* transaction on such board of trade or exchange, or wherein both parties, or such person, association, copartnership, or corporation above named, shall contemplate or intend that such contracts, agreements, trades, or transactions shall be or may be deemed closed or terminated when the public market quotations of prices made on such board of trade or exchange for the articles or securities named in such contracts, agreements, trades, or transactions shall reach a certain figure, and every person, association, copartnership, and corporation who or which shall in his or its own behalf or as agent conduct what is commonly known

as a "bucket shop" shall pay a stamp tax of 2 cents on each \$100 in value or fraction thereof, of the merchandise covered or pretended to be covered, and also a tax of 2 cents on each \$100 on the face value or fraction thereof, of all stocks, bonds, or other securities covered or pretended to be covered by each and all of such contracts, agreements, trades, or transactions: *Provided however*, That the payment of any tax imposed by this paragraph shall not be held or construed to exempt any such person, association, copartnership, or corporation from any penalty or punishment provided by the laws of any State for carrying on such business, or the making of such contracts, agreements, trades, or transactions within such State, or in any manner to authorize the commencement or continuance of such business or the making of any such contracts, agreements, trades, or transactions contrary to the laws of such State, or in any place prohibited by municipal law; and on or before the first day of April, 1901, every such person, association, copartnership, or corporation, as aforesaid, shall, for each office or place of business and for each branch office or place of business, wherever established, pay a special tax of \$12.50, and on or before the first day of July, 1901, and annually thereafter, for every such office or branch office, a special tax of \$50, and such taxes shall be in addition to all other special taxes imposed by this act. Every person, association, copartnership, or corporation proposing to engage in or continue the business aforesaid shall, before commencing such business, file with the collector or proper deputy collector of the district in which it is proposed to carry on such business a notice in writing under oath, and in such form as the Commissioner of Internal Revenue may prescribe, stating the name of the person, association, copartnership, or corporation intending to engage in such business, the names of the members of any such association or copartnership, and the names of the officers of any such corporation, together with the residences of all the individuals whose names are thus required, and the place (including street number) where such business is to be carried on, and it shall be the duty of the collector of internal revenue to keep in his office a book in which shall be recorded a complete copy of all such notices, and such book shall be open to public inspection. Every person, association, copartnership, or corporation conducting or transacting the business aforesaid shall keep or cause to be kept just and true books of account, wherein shall be plainly and legibly recorded on the day of the making of every such contract, agreement, trade, or transaction a complete and exact specification thereof, including the date thereof, the other party thereto, and the quantity, price, and the gross amount in value of each article or commodity covered or pretended to be covered by each such contract, agreement, trade, or transaction, and such books shall at all reasonable times and hours be subject to the inspection of the collector, deputy collector, and the inspector of internal revenue or any duly authorized agent of the Internal Revenue Department, and every such person, association, copartnership, or corporation shall deliver to the other party to each such contract, agreement, trade, or transaction, at the time of making the same, a written memorandum also containing the complete and exact specification thereof, above referred to, to which the proper stamp shall be, before delivery, affixed. Every person, association, copartnership, or corporation who shall, in his or their own behalf, or as agent, engage in or continue in the business hereinbefore defined without having filed the notice herein required, or who shall fail or refuse to keep any such

book or make any return, report, or affidavit required as aforesaid, or shall make a false, fraudulent, or partial return, report, or affidavit, or shall fail or refuse to deliver a written memorandum, as hereinbefore required, or shall in any other respect violate any of the provisions of this paragraph, shall, besides being liable for the amount of the tax or taxes herein prescribed, be deemed guilty of a misdemeanor, and upon conviction thereof shall, for each and every such offense, pay a fine of not less than \$500 nor more than \$5,000, or be imprisoned not less than three months nor more than two years, or both, in the discretion of the court. All provisions of law now in force relating to the collection, recovery, and enforcement of taxes, fines, and penalties imposed under the law concerning internal revenue and not inconsistent with the provisions of this paragraph shall extend and apply to the recovery and enforcement of the taxes, fines, and penalties imposed by this paragraph.

"4. Bill of exchange (inland), draft, or order for the payment of any sum of money, otherwise than at sight or on demand, and for each renewal of the same, for a sum not exceeding \$100, 2 cents; and for each additional \$100 or fractional part thereof in excess of \$100, 2 cents.

"5. Bill of exchange (foreign) or letter of credit (including orders by telegraph or otherwise for the payment of money issued by express or other companies or any person or persons), drawn in but payable out of the United States, if drawn singly or otherwise than in a set of 3 or more, according to the custom of merchants and bankers, shall pay for a sum not exceeding \$100, 2 cents, and for each \$100 or fractional part thereof in excess of \$100, 2 cents. If drawn in sets of 2 or more: For every bill of each set, where the sum made payable shall not exceed \$100, or the equivalent thereof, in any foreign currency in which such bill may be expressed, according to the standard of value fixed by the United States, 1 cent; and for each \$100 or fractional part thereof in excess of \$100, 1 cent. Excepting that bills of exchange drawn against the value of products or merchandise actually exported to foreign countries shall not be subject to this tax, provided that such bills of exchange shall be accompanied by proper invoices, and receipts, bills of lading, or vouchers, showing that goods of a value at least equal to the amount for which said bill of exchange may be drawn shall have been exported.

"6. Freight: It shall be the duty of every railroad or steamboat company, carrier, or corporation, or person whose occupation is to act as such, except persons, companies, or corporations engaged in carrying on a local or other express business, to issue to the shipper or consignor, or his agent, or person from whom any goods are accepted for transportation, a bill of lading, manifest, or other evidence of receipt and forwarding for each shipment received for carriage and transportation, whether in bulk or boxes, bales, packages, bundles, or not so enclosed or included; and there shall be duly attached and canceled, as in this act provided, to each of said bills of lading, manifests, or other memorandum, and to each duplicate thereof, a stamp of the value of 1 cent: *Provided*, That but one bill of lading shall be required on bundles or packages of newspapers when enclosed in one general bundle at the time of shipment. Any failure to issue such bill of lading, manifest, or other memorandum, as herein provided, shall subject such railroad or steamboat company, carrier, or corporation, or person to a penalty of \$50 for each offense, and no such bill of lading, manifest, or other memorandum shall

be used in evidence unless it shall be duly stamped as aforesaid.

"7. Bond: For indemnifying any person or persons, firm, or corporation who shall have become bound or engaged as surety for the payment of any sum of money, or for the due execution or performance of the duties of any office or position, and to account for money received by virtue thereof, 50 cents.

"8. Certificate of profits, or any certificate or memorandum showing an interest in the property or accumulations of any association, company, or corporation, and on all transfers thereof, on each \$100 of face value or fraction thereof, 2 cents.

"9. Contract: Broker's note, or memorandum of sale of any goods or merchandise, stocks, bonds, exchange, notes of hand, real estate, or property of any kind or description issued by brokers, or persons acting as such, for each note or memorandum of sale, not otherwise provided for in this act, 10 cents.

"10. Conveyance: Deed, instrument, or writing, whereby any lands, tenements, or other realty shall be sold, granted, assigned, transferred, or otherwise conveyed to or vested in the purchaser or purchasers, or any other person or persons, by his, her, or their direction, when the consideration or value exceeds \$2,500, and does not exceed \$3,000, 25 cents, and for each additional \$500 or fractional part thereof in excess of \$3,000, 25 cents.

"11. Entry of any goods, wares, or merchandise at any custom-house, either for consumption or warehousing, not exceeding \$100 in value, 25 cents. Exceeding \$100 and not exceeding \$500 in value, 50 cents. Exceeding \$500 in value, \$1.

"12. Entry for the withdrawal of any goods or merchandise from customs bonded warehouse, 50 cents.

"13. Passage tickets: Ticket, order, contract, or certificate for passage by any vessel from any port in the United States to a foreign port, costing \$50, 50 cents; and for each \$50 or any part thereof in addition thereto, 50 cents."

"SEC. 9. That Schedule B of said act is hereby amended so as to read as follows:

"SCHEDULE B.

"Sparkling or other wines, when bottled for sale, upon each bottle containing 1 pint or less, 1 cent. Upon each bottle containing more than 1 pint, 2 cents."

"SEC. 10. That section 29 of said act is hereby amended by adding at the end of said section the following: *Provided*, That nothing in this section shall be construed to apply to bequests or legacies for uses of a religious, literary, charitable, or educational character, or for the encouragement of art, or to legacies or bequests to societies for the prevention of cruelty to children, including all bequests or legacies of such character on which the tax imposed had not been paid or collected on the first day of March, 1901: *And provided further*, That the provisions of this act and of the act hereby amended shall not be held to apply to any estate where the testator or intestate died before June 13, 1898,' so that said section as amended shall read as follows:

"LEGACIES AND DISTRIBUTIVE SHARES OF PERSONAL PROPERTY.

"SEC. 29. That any person or persons having in charge or trust, as administrators, executors, or trustees, any legacies or distributive shares arising from personal property, where the whole amount of such personal property as aforesaid shall exceed the sum of \$10,000 in actual value, passing, after the passage of this act, from any person pos-

sessed of such property, either by will or by the intestate laws of any State or Territory, or any personal property or interest therein, transferred by deed, grant, bargain, sale, or gift, made or intended to take effect in possession or enjoyment after the death of the grantor or bargainer, to any person or persons, or to any body or bodies, politic or corporate, in trust or otherwise, shall be, and hereby are, made subject to a duty or tax, to be paid to the United States, as follows—that is to say: Where the whole amount of said personal property shall exceed in value \$10,000 and shall not exceed in value the sum of \$25,000 the tax shall be:

"1. Where the person or persons entitled to any beneficial interest in such property shall be the lineal issue or lineal ancestor, brother, or sister to the person who died possessed of such property, as aforesaid, at the rate of 75 cents for each and every \$100 of the clear value of such interest in such property.

"2. Where the person or persons entitled to any beneficial interest in such property shall be the descendant of a brother or sister of the person who died possessed, as aforesaid, at the rate of \$1.50 for each and every \$100 of the clear value of such interest.

"3. Where the person or persons entitled to any beneficial interest in such property shall be the brother or sister of the father or mother, or a descendant of a brother or sister of the father or mother, of the person who died possessed, as aforesaid, at the rate of \$3 for each and every \$100 of the clear value of such interest.

"4. Where the person or persons entitled to any beneficial interest in such property shall be the brother or sister of the grandfather or grandmother, or a descendant of the brother or sister of the grandfather or grandmother, of the person who died possessed, as aforesaid, at the rate of \$4 for each and every \$100 of the clear value of such interest.

"5. Where the person or persons entitled to any beneficial interest in such property shall be in any other degree of collateral consanguinity than is hereinbefore stated, or shall be a stranger in blood to the person who died possessed, as aforesaid, or shall be a body politic or corporate at the rate of \$5 for each and every \$100 of the clear value of such interest: *Provided*, That all legacies or property passing by will, or by the laws of any State or Territory, to husband or wife of the person died possessed, as aforesaid, shall be exempt from tax or duty.

"Where the amount or value of said property shall exceed the sum of \$25,000, but shall not exceed the sum or value of \$100,000, the rates of duty or tax above set forth shall be multiplied by $1\frac{1}{2}$; and where the amount or value of said property shall exceed the sum of \$100,000, but shall not exceed the sum of \$500,000, such rates of duty shall be multiplied by 2; and where the amount or value of said property shall exceed the sum of \$500,000, but shall not exceed the sum of \$1,000,000, such rates of duty shall be multiplied by $2\frac{1}{2}$; and where the amount or value of said property shall exceed the sum of \$1,000,000, such rates of duty shall be multiplied by 3: *Provided*, That nothing in this section shall be construed to apply to bequests or legacies for uses of a religious, literary, charitable, or educational character, or for the encouragement of art, or to legacies or bequests to societies for the prevention of cruelty to children, including all bequests or legacies of such character on which the tax imposed had not been paid or collected on the first day of March, 1901. *And provided fur-*

ther, That the provisions of this act and of the act hereby amended shall not be held to apply to any estate where the testator or intestate died before June 13, 1898.'

"SEC. 11. That section 30 of said act is hereby amended so as to read as follows:

"SEC. 30. That the tax or duty aforesaid shall be due and payable in one year after the death of the testator and shall be a lien and charge upon the property of every person who may die as aforesaid for twenty years, or until the same shall, within that period, be fully paid to and discharged by the United States; and every executor, administrator, or trustee having in charge or trust any legacy or distributive share, as aforesaid, shall give notice thereof, in writing, to the collector or deputy collector of the district where the deceased grantor or bargainer last resided within thirty days after he shall have taken charge of such trust, and every executor, administrator, or trustee, before payment and distribution to the legatees, or any parties entitled to beneficial interest therein, shall pay to the collector or deputy collector of the district of which the deceased person was a resident, or in which the property was located in case of non-residents, the amount of the duty or tax assessed upon such legacy or distributive share, and shall also make and render to the said collector or deputy collector a schedule, list, or statement, in duplicate, of the amount of such legacy or distributive share, together with the amount of duty which has accrued, or shall accrue, thereon, verified by his oath or affirmation, to be administered and certified thereon by some magistrate or officer having lawful power to administer such oaths, in such form and manner as may be prescribed by the Commissioner of Internal Revenue, which schedule, list, or statement shall contain the names of each and every person entitled to any beneficial interest therein, together with the clear value of such interest, the duplicate of which schedule, list, or statement shall be by him immediately delivered, and the tax thereon paid to such collector; and upon such payment and delivery of such schedule, list, or statement said collector or deputy collector shall grant to such person paying such duty or tax a receipt or receipts for the same in duplicate, which shall be prepared as hereinafter provided. Such receipt or receipts, duly signed and delivered by such collector or deputy collector, shall be sufficient evidence to entitle such executor, administrator, or trustee to be credited and allowed such payment by every tribunal which, by the laws of any State or Territory, is, or may be, empowered to decide upon and settle the accounts of executors and administrators. And in case such executor, administrator, or trustee shall refuse or neglect to pay the aforesaid duty or tax to the collector or deputy collector, as aforesaid, within the time hereinbefore provided, or shall neglect or refuse to deliver to said collector or deputy collector the duplicate of the schedule, list, or statement of such legacies, property, or personal estate, under oath, as aforesaid, or shall neglect or refuse to deliver the schedule, list, or statement of such legacies, property, or personal estate, under oath, as aforesaid, or shall deliver to said collector or deputy collector a false schedule or statement of such legacies, property, or personal estate, or give the names and relationship of the persons entitled to beneficial interests therein untruly, or shall not truly and correctly set forth and state therein the clear value of such beneficial interest, or where no administration upon such property or personal estate shall have

been granted or allowed under existing laws, the collector or deputy collector shall make out such lists and valuation as in other cases of neglect or refusal, and shall assess the duty thereon; and the collector shall commence appropriate proceedings before any court of the United States, in the name of the United States, against such person or persons as may have the actual or constructive custody or possession of such property or personal estate, or any part thereof, and shall subject such property or personal estate, or any portion of the same, to be sold upon the judgment or decree of such court, and from the proceeds of such sale the amount of such tax or duty, together with all costs and expenses of every description to be allowed by such court, shall be first paid, and the balance, if any, deposited according to the order of such court, to be paid under its direction to such person or persons as shall establish title to the same. The deed or deeds, or any proper conveyance of such property or personal estate, or any portion thereof, so sold under such judgment or decree, executed by the officer lawfully charged with carrying the same into effect, shall vest in the purchaser thereof all the title of the delinquent to the property or personal estate sold under and by virtue of such judgment or decree, and shall release every other portion of such property or personal estate from the lien or charge thereon created by this act. And every person or persons who shall have in his possession, charge, or custody any record, file, or paper containing, or supposed to contain, any information concerning such property or personal estate, as aforesaid, passing from any person who may die, as aforesaid, shall exhibit the same at the request of the collector or deputy collector of the district, and to any law officer of the United States, in the performance of his duty under this act, his deputy or agent, who may desire to examine the same. And if any such person, having in his possession, charge, or custody any such records, files, or papers, shall refuse or neglect to exhibit the same on request, as aforesaid, he shall forfeit and pay the sum of \$500: *Provided*, That in all legal controversies where such deed or title shall be the subject of judicial investigation, the recital in said deed shall be *prima facie* evidence of its truth, and that the requirements of the law had been complied with by the officers of the Government: *And provided further*, That in case of wilful neglect, refusal, or false statement by such executor, administrator, or trustee, as aforesaid, he shall be liable to a penalty of not exceeding \$1,000, to be recovered with costs of suit. Any tax paid under the provisions of sections 29 and 30 shall be deducted from the particular legacy or distributive share on account of which the same is charged.'

"SEC. 12. That from and after the passage of this act the Secretary of the Treasury, upon the recommendation of the Commissioner of Internal Revenue, is authorized to appoint a competent person, at an annual salary of \$3,000, whose special duty it shall be to conduct such investigations as may be necessary to secure the efficient enforcement of the tax imposed upon legacies and distributive shares of personal property by this act, and the Commissioner of Internal Revenue may also from time to time assign one or more special agents to aid in such investigations.

"SEC. 13. That section 35 of said act is hereby amended so as to read as follows:

"SEC. 35. That for the purposes of this act the words 'mixed flour' shall be taken and construed to mean the food product resulting from the grinding or mixing together of wheat, or

wheat flour, as the principal constituent in quantity, with any other grain, or the product of any other grain, or other material, except such material, not exceeding 5 per centum in quantity, and not the product of any grain, as is commonly used for baking purposes: *Provided*, That when the product resulting from the grinding or mixing together of wheat or wheat flour with any other grain, or the product of any other grain, of which wheat or wheat flour is not the principal constituent as specified in the foregoing definition, is intended for sale, or is sold, or offered for sale as wheat flour, such product shall be held to be mixed flour within the meaning of this act.

"SEC. 14. That section 18 of said act is hereby repealed.

"SEC. 15. That the provisions of this act shall take effect on and after the first day of July, 1901, except where otherwise expressly provided."

The Army Bill.—Early in the session the House took up and passed a substitute for the Senate bill to increase the efficiency of the military establishment of the United States. The main point of discussion was an amendment, offered by Mr. Littlefield, of Maine, to abolish the army canteen. Mr. Grosvenor, of Ohio, said:

"I have a grave apprehension that the adoption of this amendment will do harm and not good. I am going to vote for the amendment, and I am going to state my reasons for it. I am satisfied that no amount of testimony, though one should rise from the dead, will disabuse the minds of the vast majority of the people of this country upon this question.

"I know very well that it was believed—firmly believed and distinctly understood—that the adoption of the prohibition law in the State of Maine a great many years ago was going to create a condition of absolute immunity from the evils caused by the sale of liquor in that State, and consequently be a great moral object-lesson that was to sweep over the country; and yet I have lived to see the time when the object-lesson of Maine is a warning to statesmanship from one end of the country to the other. No man now seriously believes that the attempts at State prohibition can be successful, and local option of towns or municipal corporations, with taxation and stringent limitations, is the best course.

"The result in Maine does not stand alone. The same is true of the results in Kansas and in Iowa, and the same will be true of every other State that relinquishes the regulation of and the taxation and partial prohibition of liquor traffic and which substitutes the attempt at prohibition. But the people of this country have the impression firmly fixed that we will have a temperate army, a virtuous military army, if this canteen is only abolished. I think the experiment must be tried. They will not hear the testimony of men who say that it is a great modification of the saloon.

"All the saloon features have long ago been eliminated from the army canteen. Therefore the people of the country have the impression that drunkenness will be eliminated, in the absolute teeth of the testimony that if you drive out the sale of light wines and beer in the canteen the soldier will go and get drunk on the outside of the limits of the camp or reservation. There is not a saloon-keeper in the United States of America to-day resident near an army post who does not favor the abolition of the canteen in the army—not one. I can take you to a city where they are now standing ready to come down upon the army posts so soon as the canteen is abolished.

"I am going to vote to abolish it, and if good comes from it, if temperance comes from it, and if sobriety in the army comes out of the result, I shall thank God that I had the privilege of voting for it. If I am mistaken, and good comes from it, nobody will be more willing to testify to it than I will. If no good comes from it, and we discover that we made a mistake in overriding all the opinions of the army officers of the country, all that I have heard from, then we can easily retrace our steps.

"But when there is such an uprising, such a great moral determination among the people of this country, I am willing that the experiment shall be made, and this, too, even in the light of the unreasonable criticism which has been made of the Attorney-General and the false and malicious attacks upon the President, all of which have been utterly without foundation. I overlook the false and scandalous assaults upon the President by a petty preacher, a petty candidate for office, a peregrinating libeler who traveled over the country during the recent campaign and impugned the motives of the President of the United States. While I condemn these things, I vote for the amendment with the hope that good shall come of it."

Mr. Parker, of New Jersey, arguing against the policy of the amendment, said:

"Mr. Chairman, I do not sympathize with the views of the man who decides to vote for this amendment in order to please any general sentiment which through ignorance has grown up among the people of the United States, and thereby knowingly votes to hurt the soldier. We are trustees for the soldier. We are charged to speak and act for his temperance and his good order, and when we abolish the canteen system of the post exchange, temperance in the army will have received almost a death blow.

"The adoption of this amendment, we think, would be a calamity to the cause of temperance. None greater could befall that cause in the army and in the Soldiers' Home than the prohibition of the canteen feature of the post exchange. This is not a matter of theory, but one of actual experience. Soldiers, as well as every one else, resent interference with their personal freedom. To adopt this amendment means that those who would otherwise drink beer in moderation under the eyes of their fellows will go outside where they will get strong drink, and that all the evils that once existed will be renewed.

"In old times we had the sutler's canteen, the sutler being employed by the Government to sell liquors as desired, and at that time the army was a whisky-drinking army. Later we had the post-trader system, where the post-trader, a private individual, was licensed to sell whisky to soldiers, and then we also had a whisky-drinking army. It was an army in which pay-day meant absence from the post of half of the command, men imprisoned by the score in the guardhouse, men who overstayed their leave, and men who were fleeced by dive-keepers on all sides.

"There were rows of liquor saloons at the gates of every post, where vile liquor and sometimes vile drugs were dispensed, and where all the abominations that are annexed to such places were put in the way of the young men who were in the army. At last an experiment was tried; at first at but one post. It spread gradually through the army until it has become a matter of regulation in all posts and is called the post exchange.

"This post-exchange system is one developed for and by Americans. By the army regulations, of which I annex an abstract, the post exchange

is to combine the features of reading and recreation rooms, a cooperative store, and a restaurant in order to supply the troops at reasonable prices with the articles of ordinary use, wear, and consumption not supplied by the Government, and to afford them means of rational recreation and amusement, while through exchange profits it provides means for improving the messes. Buildings are ordered to be set apart or rented at every post for the exchange. An officer is put in charge of the management and a non-commissioned officer of firmness, not an outsider, is made exchange steward. The exchange is superintended by a council of officers, with a subcommittee of non-commissioned officers. Rules of order are prescribed, prohibiting gambling and restricting the entry of civilians.

"The sale and use of ardent spirits . . . is strictly prohibited. But on the recommendation of the exchange council the commanding officer may permit beer and light wines to be sold at the canteen by the drink whenever he is satisfied that giving to the troops the opportunity of obtaining such beverages within the post limits will prevent them from resorting for strong intoxicants to places without such limits and tends to promote temperance and discipline among them.

"The canteen must be in a separate room, preferably in a separate building. The sale of beer is limited to week days, the beer to be consumed upon the premises, and treating is not permitted.

"In the cooperative store the goods are got at cheap prices, and lunchroom prices are made as small as possible. Sales are made on credit, and the profits applied, 5 per cent. to the band, a part to gardens, reading-room, and gymnastic appliances, and the rest to company funds, which enable the soldiers to get better meals and comforts, or returned in dividends.

"Such an exchange was first undertaken as an experiment in Vancouver barracks in 1880, but was not established in the army till 1889, and came into full use in the year 1891.

"This is the American system that treats the soldier as entitled to his home and his reading-room, where he may meet his friends and do what he wishes, always in moderation. It has attracted attention abroad. It is recommended by Gen. Roberts in place of the sutler's canteen system. By it the soldier has his club. It is, by regulation, attached to every post. There is thus established a building in which there are reading-rooms, newspapers; a cooperative store for the sale to the soldiers of what they need and can not get in the ordinary rations.

"There is a refreshment saloon for coffee and tea and for food at odd times when the soldier can not get meals or comes in from guard-duty and wants something to eat. Generally there is provided a gymnasium. It pays something toward the regimental band, in which they all have pride. It supplies the material for polo, football, and other games, and all this is done by saying to those who wish to have a drink, 'Do not go outside; come in here and buy among your friends in your own club.' Without the profits of these sales it could not be supported. But nothing except beer and light wines are sold—no heavy intoxicants—and there is no treating. The results have been marvelous."

The amendment was adopted by a vote of 159 yeas to 51 nays; and the House substitute passed Dec. 6, 1900, by a vote of 171 yeas to 133 nays; absent, 4; not voting, 48.

The Senate made various amendments to the House substitute, and then agreed to it, as amended, by a vote of 43 yeas to 23 nays; not

voting, 21. There was a long debate over the matter, and the main points covered were the policy of having a large army, the adoption of a declaratory provision as to the national policy in the Philippines, and the good and evil results of the army canteen. The first two points have been discussed at great length in Congress at every opportunity. The third is somewhat more unusual there, and a mass of argument and illustrative material was gathered; so that the Senate debate is valuable for reference, but not to be represented by either summary or quotation. There were two conference committees; and the second report was agreed to Jan. 29 and Jan. 31. The President approved the measure Feb. 2, 1901. The full text of it is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the approval of this act the army of the United States, including the existing organizations, shall consist of 15 regiments of cavalry, a corps of artillery, 30 regiments of infantry, 1 lieutenant-general, 6 major-generals, 15 brigadier-generals, an adjutant-general's department, an inspector-general's department, a judge-advocate-general's department, a quartermaster's department, a subsistence department, a medical department, a pay department, a corps of engineers, an ordnance department, a signal-corps, the officers of the Record and Pension Office, the chaplains, the officers and enlisted men of the army on the retired list, the professors, corps of cadets, the army detachments and band at the United States Military Academy, Indian scouts as now authorized by law, and such other officers and enlisted men as may hereinafter be provided for: *Provided*, That when a vacancy shall occur through death, retirement, or other separation from active service in the office of storekeeper, now provided for by law in the quartermaster's department and ordnance department, respectively, said office shall cease to exist.

"SEC. 2. That each regiment of cavalry shall consist of 1 colonel, 1 lieutenant-colonel, 3 majors, 15 captains, 15 first lieutenants, and 15 second lieutenants; 2 veterinarians, 1 sergeant-major, 1 quartermaster-sergeant, 1 commissary-sergeant, 3 squadron sergeants-major, 2 color-sergeants with rank, pay, and allowances of squadron sergeant-major, 1 band, and 12 troops organized into 3 squadrons of 4 troops each. Of the officers herein provided, the captains and lieutenants not required for duty with the troops shall be available for detail as regimental and squadron staff-officers and such other details as may be authorized by law or regulations. Squadron adjutants shall receive \$1,800 per annum and the allowances of first lieutenants; squadron quartermasters and commissaries shall receive \$1,600 per annum and the allowances of second lieutenants. Each cavalry band shall be organized as now provided by law. Each troop of cavalry shall consist of 1 captain, 1 first lieutenant, 1 second lieutenant, 1 first sergeant, 1 quartermaster-sergeant, 6 sergeants, 6 corporals, 2 cooks, 2 farriers and blacksmiths, 1 saddler, 1 wagoner, 2 trumpeters, and 43 privates; the commissioned officers to be assigned from among those hereinbefore authorized, *Provided*, That the President, in his discretion, may increase the number of corporals in any troop of cavalry to 8, and the number of privates to 76, but the total number of enlisted men authorized for the whole army shall not at any time be exceeded.

"SEC. 3. That the regimental organization of the artillery arm of the United States Army is

hereby discontinued, and that arm is constituted and designated as the artillery corps. It shall be organized as hereinafter specified and shall belong to the line of the army.

"SEC. 4. That the artillery corps shall comprise two branches—the coast artillery and the field artillery. The coast artillery is defined as that portion charged with the care and use of the fixed and movable elements of land and coast fortifications, including the submarine mine and torpedo defenses; and the field artillery as that portion accompanying an army in the field, and including field and light artillery proper, horse artillery, siege artillery, mountain artillery, and also machine-gun batteries: *Provided*, That this shall not be construed to limit the authority of the Secretary of War to order coast artillery to any duty which the public service demands or to prevent the use of machine or other field-guns by any other arm of the service under the direction of the Secretary of War.

"SEC. 5. That all officers of artillery shall be placed on one list, in respect to promotion, according to seniority in their several grades, and shall be assigned to coast or to field artillery according to their special aptitude for the respective services.

"SEC. 6. That the artillery corps shall consist of a chief of artillery, who shall be selected and detailed by the President from the colonels of artillery, to serve on the staff of the general officer commanding the army, and whose duties shall be prescribed by the Secretary of War; 14 colonels, 1 of whom shall be the chief of artillery; 13 lieutenant-colonels, 39 majors, 195 captains, 195 first lieutenants, 195 second lieutenants; and the captains and lieutenants provided for in this section not required for duty with batteries or companies shall be available for duty as staff-officers of the various artillery garrisons and such other details as may be authorized by law and regulations: 21 sergeants-major, with the rank, pay, and allowances of regimental sergeants-major of infantry; 27 sergeants-major, with the rank, pay, and allowances of battalion sergeants-major of infantry; 1 electrician sergeant to each coast artillery post having electrical appliances; 30 batteries of field artillery, 126 batteries of coast artillery, and 10 bands organized as now authorized by law for artillery regiments: *Provided*, That the aggregate number of enlisted men for the artillery, as provided under this act, shall not exceed 18,920, exclusive of electrician sergeants.

"SEC. 7. That each company of coast artillery shall be organized as is now prescribed by law for a battery of artillery: *Provided*, That the enlisted strength of any company may be fixed, under the direction of the Secretary of War, according to the requirements of the service to which it may be assigned: *And provided*, That first-class gunners shall receive \$2 a month, and second-class gunners \$1 per month in addition to their pay.

"SEC. 8. That each battery of field artillery shall be organized as is now prescribed by law, and the enlisted strength thereof shall be fixed under the direction of the Secretary of War.

"SEC. 9. That the increase herein provided for the artillery shall be made as follows: Not less than 20 per centum before July 1, 1901, and not less than 20 per centum each succeeding twelve months until the total number provided for shall have been attained. All vacancies created or caused by this act shall be filled by promotion according to seniority in the artillery arm. Second lieutenants of infantry or cavalry may, in the discretion of the President, be transferred to the artillery arm, taking rank therein according to date

of commission, and such transfers shall be subject to approval by a board of artillery officers appointed to pass upon the capacity of such officers for artillery service: *Provided*, That the increase of officers of artillery shall be only in proportion to the increase of men.

"SEC. 10. That each regiment of infantry shall consist of 1 colonel, 1 lieutenant-colonel, 3 majors, 15 captains, 15 first lieutenants, and 15 second lieutenants; 1 sergeant-major, one quartermaster-sergeant, 1 commissary-sergeant, 3 battalion sergeants-major, 2 color sergeants, with rank, pay, and allowances of battalion sergeants-major, 1 band, and 12 companies, organized into 3 battalions of 4 companies each. Of the officers herein provided, the captains and lieutenants not required for duty with the companies shall be available for detail as regimental and battalion staff-officers and such other details as may be authorized by law or regulations. Battalion adjutants shall receive \$1,800 per annum and the allowances of first lieutenants, mounted; battalion quartermasters and commissaries shall receive \$1,600 per annum and the allowances of second lieutenants, mounted. Each infantry band shall be organized as now provided by law. Each infantry company shall consist of 1 captain, 1 first lieutenant, 1 second lieutenant, 1 first sergeant, 1 quartermaster-sergeant, 4 sergeants, 6 corporals, 2 cooks, 2 musicians, 1 artificer, and 48 privates, the commissioned officers to be assigned from those hereinbefore authorized: *Provided*, That the President, in his discretion, may increase the number of sergeants in any company of infantry to 6, the number of corporals to 10, and the number of privates to 127, but the total number of enlisted men authorized for the whole army shall not, at any time, be exceeded.

"SEC. 11. That the enlisted force of the corps of engineers shall consist of 1 band and 3 battalions of engineers. The engineers band shall be organized as now provided by law for bands of infantry regiments. Each battalion of engineers shall consist of 1 sergeant-major, 1 quartermaster-sergeant, and 4 companies. Each company of engineers shall consist of 1 first sergeant, 1 quartermaster-sergeant, with the rank, pay, and allowances of sergeant, 8 sergeants, 10 corporals, 2 musicians, 2 cooks, 38 first-class and 38 second-class privates: *Provided*, That the President may, in his discretion, increase the number of sergeants in any company of engineers to 12, the number of corporals to 18, the number of first-class privates to 64, and the number of second-class privates to 64, but the total number of enlisted men authorized for the whole army shall not, at any time, be exceeded: *And provided*, That officers detailed from the corps of engineers to serve as battalion adjutants and battalion quartermasters and commissaries shall, while so serving, receive the pay and allowances herein authorized for battalion staff-officers of infantry regiments.

"SEC. 12. That the President is authorized to appoint, by and with the advice and consent of the Senate, chaplains in the army, at the rate of 1 for each regiment of cavalry and infantry in the United States service and 12 for the corps of artillery, with the rank, pay, and allowances of captains of infantry: *Provided*, That no person shall be appointed a chaplain in the regular army who shall have passed the age of forty years, nor until he shall have established his fitness as required by existing law: *And provided*, That the office of post chaplain is abolished, and the officers now holding commissions as chaplains, or who may hereafter be appointed chaplains, shall be assigned to regiments or to the corps of artillery.

Chaplains may be assigned to such stations as the Secretary of War shall direct, and they may be transferred, as chaplains, from one branch of the service or from one regiment to another by the Secretary of War, without further commission. When serving in the field, chaplains shall be furnished with necessary means of transportation by the quartermaster's department.

"SEC. 13. That the adjutant-general's department shall consist of 1 adjutant-general with the rank of major-general, and when a vacancy shall occur in the office of adjutant-general on the expiration of the service of the present incumbent, by retirement or otherwise, the adjutant-general shall thereafter have the rank and pay of a brigadier-general, 5 assistant adjutants-general with the rank of colonel, 7 assistant adjutants-general with the rank of lieutenant-colonel, and 15 assistant adjutants-general with the rank of major: *Provided*, That all vacancies created or caused by this section shall, as far as possible, be filled by promotion according to seniority of officers of the adjutant-general's department.

"SEC. 14. That the inspector-general's department shall consist of 1 inspector-general with the rank of brigadier-general, 4 inspectors-general with the rank of colonel, 4 inspectors-general with the rank of lieutenant-colonel, and 8 inspectors-general with the rank of major: *Provided*, That all vacancies created or caused by this section shall be filled, as far as possible, by promotion according to seniority of officers of the inspector-general's department.

"SEC. 15. That the judge-advocate-general's department shall consist of 1 judge-advocate-general with the rank of brigadier-general, 2 judge-advocates with the rank of colonel, 3 judge-advocates with the rank of lieutenant-colonel, 6 judge-advocates with the rank of major, and for each geographical department or tactical division of troops not provided with a judge-advocate from the list of officers holding permanent commissions in the judge-advocate-general's department one acting judge-advocate with the rank, pay, and allowances of captain, mounted. Promotions to vacancies above the grade of major, created or caused by this act, shall be made, according to seniority, from officers now holding commission in the judge-advocate-general's department. Vacancies created or caused by this act in the grade of major may be filled by appointment of officers holding commissions as judge-advocate of volunteers since April 21, 1898. Vacancies which may occur thereafter in the grade of major in the judge-advocate-general's department shall be filled by the appointment of officers of the line, or of persons who have satisfactorily served as judge-advocates of volunteers since April 21, 1898, or of persons from civil life who at date of appointment are not over thirty-five years of age and who shall pass a satisfactory examination to be prescribed by the Secretary of War.

"Acting judge-advocates provided for herein shall be detailed from officers of the grades of captain or first lieutenant of the line of the army who while so serving shall continue to hold their commissions in the arm of the service to which they permanently belong. Upon completion of a tour of duty not exceeding four years they shall be returned to the arm in which commissioned, and shall not be again detailed until they shall have completed two years' duty with the arm of the service in which commissioned.

"SEC. 16. That the quartermaster's department shall consist of 1 quartermaster-general with the rank of brigadier-general, 6 assistant quartermasters-general with the rank of colonel, 9 deputy

quartermasters-general with the rank of lieutenant-colonel, 20 quartermasters with the rank of major, 60 quartermasters with the rank of captain, mounted; the military storekeeper now provided for by law, and 150 post quartermaster-sergeants: *Provided*, That all vacancies in the grade of colonel, lieutenant-colonel, and major created or caused by this section shall be filled by promotion according to seniority, as now prescribed by law. That to fill original vacancies in the grade of captain created by this act in the quartermaster's department the president is authorized to appoint officers of volunteers commissioned in the quartermaster's department since April 21, 1898: *Provided further*, That the President is authorized to continue in service, during the present emergency, for duty in the Philippine Islands and on transports, 24 captains and assistant quartermasters of volunteers. This authority shall extend only for the period when their services shall be absolutely necessary.

"SEC. 17. That the subsistence department shall consist of 1 commissary-general with the rank of brigadier-general, 3 assistant commissaries-general with the rank of colonel, 4 deputy commissaries-general with the rank of lieutenant-colonel, 9 commissaries with the rank of major, 27 commissaries with the rank of captain, mounted, and the number of commissary-sergeants now authorized by law, who shall hereafter be known as post commissary-sergeants: *Provided*, That all vacancies in the grades of colonel, lieutenant-colonel, and major, created or caused by this section, shall be filled by promotion, according to seniority, as now prescribed by law. That to fill original vacancies in the grade of captain, created by this act, in the subsistence department, the President is authorized to appoint officers of volunteers commissioned in the subsistence department since April 21, 1898.

"SEC. 18. That the medical department shall consist of 1 surgeon-general with the rank of brigadier-general, 8 assistant surgeons-general with the rank of colonel, 12 deputy surgeons-general with the rank of lieutenant-colonel, 60 surgeons with the rank of major, 240 assistant surgeons with the rank of captain or first lieutenant, the hospital corps, as now authorized by law, and the nurse corps: *Provided*, That all vacancies in the grades of colonel, lieutenant-colonel, and major created or caused by this section shall be filled by promotion according to seniority, subject to the examination now prescribed by law: *And provided*, That the period during which any assistant surgeon shall have served as a surgeon or assistant surgeon in the volunteer army during the war with Spain or since shall be counted as a portion of the five years' service required to entitle him to rank of captain: *And provided also*, That nothing in this section shall affect the relative rank for promotion of any assistant surgeon now in the service, or who may be hereafter appointed therein, as determined by the date of his appointment or commission and as fixed in accordance with existing law and regulations: *Provided further*, That in emergencies the surgeon-general of the army, with the approval of the Secretary of War, may appoint as many contract surgeons as may be necessary, at a compensation not to exceed \$150 a month. That on or after the passage of this act the President may appoint for duty in the Philippine Islands, 50 surgeons of volunteers with the rank and pay of major, and 150 assistant surgeons of volunteers with the rank and pay of captain, mounted, for a period of two years: *Provided*, That so many of these volunteer medical officers as are not required

shall be honorably discharged the service whenever in the opinion of the Secretary of War their services are no longer necessary: *Provided further*, That assistant surgeons in the volunteer army of the United States, commissioned by the President as captains, in accordance with the provisions of an act for increasing the efficiency of the army of the United States, and for other purposes, approved March 2, 1899, shall be entitled to the pay of a captain, mounted, from the date of their acceptance of such commission, as prescribed by law: *Provided*, That the surgeon-general of the army, with the approval of the Secretary of War, be, and he is hereby, authorized to employ dental surgeons to serve the officers and enlisted men of the regular and volunteer army, in the proportion of not to exceed 1 for every 1,000 of said army, and not exceeding 30 in all. Said dental surgeons shall be employed as contract dental surgeons under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory professional examination. *Provided*, That 3 of the number of dental surgeons to be employed shall be first appointed by the surgeon-general, with the approval of the Secretary of War, with reference to their fitness for assignment, under the direction of the surgeon-general, to the special service of conducting the examinations and supervising the operations of the others; and for such special service an extra compensation of \$60 a month will be allowed: *Provided further*, That dental college graduates now employed in the hospital corps who have been detailed for a period of not less than twelve months to render dental service to the army and who are shown by the reports of their superior officers to have rendered such service satisfactorily may be appointed contract dental surgeons without examination: *Provided*, That the Secretary of War be authorized to appoint in the hospital corps, in addition to the 200 hospital stewards now allowed by law, 100 hospital stewards: *Provided*, That men who have served as hospital stewards of volunteer regiments or acted in that capacity during and since the Spanish-American War for more than six months may be appointed hospital stewards in the regular army: *And provided further*, That all men so appointed shall be of good moral character and shall have passed a satisfactory mental and physical examination.

"SEC. 19. That the nurse corps (female) shall consist of one superintendent, to be appointed by the Secretary of War, who shall be a graduate of a hospital training-school having a course of instruction of not less than two years, whose term of office may be terminated at his discretion, whose compensation shall be \$1,800 per annum, and of as many chief nurses, nurses, and reserve nurses as may be needed. Reserve nurses may be assigned to active duty when the emergency of the service demands, but shall receive no compensation except when on such duty: *Provided*, That all nurses in the nurse corps shall be appointed or removed by the surgeon-general, with the approval of the Secretary of War; that they shall be graduates of hospital training-schools, and shall have passed a satisfactory professional, moral, mental, and physical examination: *And provided*, That the superintendent and nurses shall receive transportation and necessary expenses when traveling under orders; that the pay and allowances of nurses, and of reserve nurses, when on active service, shall be \$40 per month when on duty in the United States and \$50 per month

when without the limits of the United States. They shall be entitled to quarters, subsistence, and medical attendance during illness, and they may be granted leaves of absence for thirty days, with pay, for each calendar year; and, when serving as chief nurses, their pay may be increased by authority of the Secretary of War, such increase not to exceed \$25 per month. Payments to the nurse corps shall be made by the pay department.

"SEC. 20. That the grade of veterinarian of the second class in cavalry regiments, United States army, is hereby abolished, and hereafter the two veterinarians authorized for each cavalry regiment and the one veterinarian authorized for each artillery regiment shall receive the pay and allowances of second lieutenants, mounted. Such number of veterinarians as the Secretary of War may authorize shall be employed to attend animals pertaining to the quartermaster's or other departments not directly connected with the cavalry and artillery regiments, at a compensation not exceeding \$100 per month.

"SEC. 21. That the pay department shall consist of 1 paymaster-general with the rank of brigadier-general, 3 assistant paymasters-general with the rank of colonel, 4 deputy paymasters-general with the rank of lieutenant-colonel, 20 paymasters with the rank of major, and 25 paymasters with the rank of captain, mounted: *Provided*, That all vacancies in the grade of colonel and lieutenant-colonel created or caused by this section shall be filled by promotion according to seniority, as now prescribed by law, and no more appointments to the grade of major and paymaster shall be made until the number of majors and paymasters is reduced below 20: *And provided*, That persons who have served in the volunteer army since April 21, 1898, as additional paymasters may be appointed to positions in the grade of captain, created by this section. So long as there remain surplus majors an equal number of vacancies shall be held in the grade of captain, so that the total number of paymasters authorized by this section shall not be exceeded at any time.

"SEC. 22. That the corps of engineers shall consist of 1 chief of engineers with the rank of brigadier-general, 7 colonels, 14 lieutenant-colonels, 28 majors, 40 captains, 40 first lieutenants, and 30 second lieutenants. The enlisted force provided in section 11 of this act and the officers serving therewith shall constitute a part of the line of the army: *Provided*, That the chief of engineers shall be selected as now provided by law, and hereafter vacancies in the corps of engineers in all other grades above that of second lieutenant shall be filled, as far as possible, by promotion according to seniority from the corps of engineers: *And provided also*, That vacancies remaining in the grades of first and second lieutenant may be filled by transfer of officers of the regular army, subject to such professional examination as may be approved by the Secretary of War. Vacancies in the grade of second lieutenant not filled by transfer shall be left for future promotions from the corps of cadets at the United States Military Academy.

"SEC. 23. That the ordnance department shall consist of 1 chief of ordnance with the rank of brigadier-general, 4 colonels, 6 lieutenant-colonels, 12 majors, 24 captains, and 24 first lieutenants, the ordnance storekeeper, and the enlisted men, including ordnance sergeants, as now authorized by law. All vacancies created or caused by this section shall, as far as possible, be filled by promotion according to seniority as now prescribed by law.

"SEC. 24. That the signal-corps shall consist of 1 chief signal-officer with the rank of brigadier-general, 1 colonel, 1 lieutenant-colonel, 4 majors, 14 captains, 14 first lieutenants, 80 first-class sergeants, 120 sergeants, 150 corporals, 250 first-class privates, 150 second-class privates, and 10 cooks: *Provided*, That vacancies created or caused by this section shall be filled by promotion of officers of the signal-corps according to seniority, as now provided by law. Vacancies remaining after such promotions may be filled by appointment of persons who have served in the volunteer signal-corps since April 21, 1898: *Provided*, That the President is authorized to continue in service during the present emergency, for duty in the Philippine Islands, 5 volunteer signal-officers with the rank of first lieutenant and 5 volunteer signal-officers with the rank of second lieutenant. This authority shall extend only for the period when their services may be absolutely necessary.

"SEC. 25. That the officers of the Record and Pension Office of the War Department shall be a chief of said office with the rank of brigadier-general and an assistant chief of said office with the rank of major: *Provided*, That any person appointed to be chief of the Record and Pension Office after the passage of this act shall have the rank of colonel.

"SEC. 26. That so long as there remain any officers holding permanent appointments in the adjutant-general's department, the inspector-general's department, the quartermaster's department, the subsistence department, the pay department, the ordnance department, and the signal-corps, including those appointed to original vacancies in the grades of captain and first lieutenant under the provisions of sections 16, 17, 21, and 24 of this act, they shall be promoted according to seniority in the several grades, as now provided by law, and nothing herein contained shall be deemed to apply to vacancies which can be filled by such promotions or to the periods for which the officers so promoted shall hold their appointments, and when any vacancy, except that of the chief of the department or corps, shall occur, which can not be filled by promotion as provided in this section, it shall be filled by detail from the line of the army, and no more permanent appointments shall be made in those departments or corps after the original vacancies created by this act shall have been filled. Such details shall be made from the grade in which the vacancies exist, under such system of examination as the President may from time to time prescribe.

"All officers so detailed shall serve for a period of four years, at the expiration of which time they shall return to duty with the line, and officers below the rank of lieutenant-colonel shall not again be eligible for selection in any staff department until they shall have served two years with the line.

"That when vacancies shall occur in the position of chief of any staff corps or department the President may appoint to such vacancies, by and with the advice and consent of the Senate, officers of the army at large not below the rank of lieutenant-colonel, and who shall hold office for terms of four years. When a vacancy in the position of chief of any staff corps or department is filled by the appointment of an officer below the rank now provided by law for said office, said chief shall, while so serving, have the same rank, pay, and allowances now provided for the chief of such corps or department. And any officer now holding office in any corps or department who shall hereafter serve as chief of a staff corps or department and shall subsequently be retired,

shall be retired with the rank, pay, and allowances authorized by law for the retirement of such corps or department chief: *Provided*, That so long as there remain in service officers of any staff corps or department holding permanent appointments, the chief of such staff corps or department shall be selected from the officers so remaining therein.

"SEC. 27. That each position vacated by officers of the line, transferred to any department of the staff for tours of service under this act, shall be filled by promotion in the line until the total number detailed equals the number authorized for duty in each staff department. Thereafter vacancies caused by details from the line to the staff shall be filled by officers returning from tours of staff-duty. If under the operation of this act the number of officers returned to any particular arm of the service at any time exceeds the number authorized by law in any grade, promotions to that grade shall cease until the number has been reduced to that authorized.

"SEC. 28. That vacancies in the grade of field-officers and captain, created by this act, in the cavalry, artillery, and infantry shall be filled by promotion according to seniority in each branch, respectively. Vacancies existing after the promotions have been made shall be provided for as follows: A sufficient number shall be reserved in the grade of second lieutenant for the next graduating class at the United States Military Academy.

"Persons not over forty years of age who shall have at any time served as volunteers subsequent to April 21, 1898, may be ordered before boards of officers for such examination as may be prescribed by the Secretary of War, and those who establish their fitness before these examining boards may be appointed to the grades of first or second lieutenant in the regular army, taking rank in the respective grades according to seniority as determined by length of prior commissioned service; but no person appointed under the provisions of this section shall be placed above another in the same grade with longer commissioned service, and nothing herein contained shall change the relative rank of officers heretofore commissioned in the regular army.

"Enlisted men of the regular army or volunteers may be appointed second lieutenants in the regular army to vacancies created by this act, provided that they shall have served one year, under the same conditions now authorized by law for enlisted men of the regular army.

"SEC. 29. That to fill vacancies occurring from time to time in the several organizations serving without the limits of the United States with trained men, the President is authorized to enlist recruits in numbers equal to 4 per centum in excess of the total strength authorized for such organizations.

"SEC. 30. That the President is authorized to maintain the enlisted force of the several organizations of the army at their maximum strength as fixed by this act during the present exigencies of the service, or until such time as Congress may hereafter otherwise direct: *Provided*, That in the event of the enlistment of a soldier in the army for the period required by law, and after the expiration of one year of service, should either of his parents die, leaving the other solely dependent upon the soldier for support, such soldier may, upon his own application, be honorably discharged from the service of the United States upon due proof being made of such condition to the Secretary of War.

"SEC. 31. That the Secretary of War is authorized to detach from the army at large such num-

ler of enlisted men as may be necessary to perform duty at the various recruiting stations, and while performing such duty one member of each party shall have the rank, pay, and allowances of sergeant, and one the rank, pay, and allowances of corporal of the arm of the service to which they respectively belong.

"SEC. 32. That when the exigencies of the service of any officer who would be entitled to promotion upon examination require him to remain absent from any place where an examining board could be convened, the President is hereby authorized to promote such officer, subject to examination, and the examination shall take place as soon thereafter as practicable. If upon examination the officer be found disqualified for promotion, he shall, upon the approval of the proceedings by the Secretary of War, be treated in the same manner as if he had been examined prior to promotion.

"SEC. 33. The President of the United States is hereby authorized to select from the brigadier-generals of volunteers 2 volunteer officers, without regard to age, and, by and with the advice and consent of the Senate, appoint them brigadier-generals, United States army, for the purpose of placing them on the retired list.

"And the President is also hereby authorized to select from the retired list of the army an officer not above the rank of brigadier-general who may have distinguished himself during the war with Spain, in command of a separate army, and to appoint, by and with the advice and consent of the Senate, the officer so selected to be major-general, United States army, with the pay and allowances established by law for officers of that grade on the retired list.

"SEC. 34. That all officers who have served during the war with Spain, or since, as officers of the regular or volunteer army of the United States, and have been honorably discharged from the service by resignation or otherwise, shall be entitled to bear the official title and, upon occasions of ceremony, to wear the uniform of the highest grade they have held by brevet or other commission in the regular or volunteer service.

"SEC. 35. That the Secretary of War be, and he is hereby, authorized and directed to cause preliminary examinations and surveys to be made for the purpose of selecting four sites with a view to the establishment of permanent camp grounds for instruction of troops of the regular army and National Guard, with estimates of the cost of the sites and their equipment with all modern appliances, and for this purpose is authorized to detail such officers of the army as may be necessary to carry on the preliminary work; and the sum of \$10,000 is hereby appropriated for the necessary expense of such work, to be disbursed under the direction of the Secretary of War: *Provided*, That the Secretary of War shall report to Congress the result of such examination and surveys, and no contract for said sites shall be made nor any obligation incurred until Congress shall approve such selections and appropriate the money therefor.

"SEC. 36. That when in his opinion the conditions in the Philippine Islands justify such action the President is authorized to enlist natives of those islands for service in the army, to be organized as scouts, with such officers as he shall deem necessary for their proper control, or as troops or companies, as authorized by this act, for the regular army. The President is further authorized, in his discretion, to form companies, organized as are companies of the regular army, in squadrons or battalions, with officers and non-commissioned officers corresponding to similar organizations in

the cavalry and infantry arms. The total number of enlisted men in said native organizations shall not exceed 12,000, and the total enlisted force of the line of the army, together with such native force, shall not exceed at any one time 100,000.

"The majors to command the squadrons and battalions shall be selected by the President from captains of the line of the regular army, and while so serving they shall have the rank, pay, and allowances of the grade of major. The captains of the troops or companies shall be selected by the President from first lieutenants of the line of the regular army, and while so serving they shall have the rank, pay, and allowances of captain of the arm to which assigned. The squadron and battalion staff-officers, and first and second lieutenants of companies, may be selected from the non-commissioned officers or enlisted men of the regular army of not less than two years' service, or from officers or non-commissioned officers or enlisted men serving, or who have served, in the volunteers subsequent to April 21, 1898, and officers of those grades shall be given provisional appointments for periods of four years each, and no such appointments shall be continued for a second or subsequent term unless the officer's conduct shall have been satisfactory in every respect. The pay and allowances of provisional officers of native organizations shall be those authorized for officers of like grades in the regular army. The pay, rations, and clothing allowances to be authorized for the enlisted men shall be fixed by the Secretary of War, and shall not exceed those authorized for the regular army.

"When, in the opinion of the President, natives of the Philippine Islands shall, by their services and character, show fitness for command, the President is authorized to make provisional appointments to the grades of second and first lieutenants from such natives, who, when so appointed, shall have the pay and allowances to be fixed by the Secretary of War, not exceeding those of corresponding grades of the regular army.

"SEC. 37. That the President is authorized to organize and maintain one provisional regiment of not exceeding three battalions of infantry, for service in Porto Rico, the enlisted strength thereof to be composed of natives of that island as far as practicable. The regiment shall be organized as to numbers as authorized for infantry regiments of the regular army. The pay, rations, and clothing allowances to be authorized for the enlisted men shall be fixed by the Secretary of War, and shall not exceed those authorized for the regular army. The field-officers shall be selected from officers of the next lower grades in the regular army and shall, while so serving in the higher grade, have the rank, pay, and allowances thereof. The company and regimental and battalion staff-officers shall be appointed by the President. The President may, in his discretion, continue with their own consent the volunteer officers and enlisted men of the Porto Rico regiment, whose terms of service expire by law July 1, 1901. Enlistments for the Porto Rico regiment shall be made for periods of three years, unless sooner discharged. The regiment shall be continued in service until further directed by Congress.

"SEC. 38. The sale of or dealing in, beer, wine, or any intoxicating liquors by any person in any post exchange or canteen or army transport or upon any premises used for military purposes by the United States, is hereby prohibited. The Secretary of War is hereby directed to carry the provisions of this section into full force and effect.

"SEC. 39. That nothing in this act shall be held or construed so as to discharge any officer

from the regular army or to deprive him of the commission which he now holds therein.

"SEC. 40. That the President be, and he is hereby, authorized to prescribe the kinds and quantities of the component articles of the army ration, and to direct the issue of substitutive equivalent articles in place of any such components whenever, in his opinion, economy and a due regard to the health and comfort of the troops may so require.

"SEC. 41. That the distinctive badges adopted by military societies of men who served in the armies and navies of the United States during the Spanish-American War and the incident insurrection in the Philippines may be worn upon all occasions of ceremony by officers and men of the army and navy of the United States who are members of said organizations in their own right.

"SEC. 42. That all laws and parts of laws inconsistent with the provisions of this act be, and the same are hereby, repealed."

Military Justice.—A measure to prevent the failure of military justice was passed by the House of Representatives Dec. 4, 1900, amended and passed by the Senate Feb. 16, 1901, modified after conference, and approved by the President March 2, 1901. Mr. Parker, of New Jersey, explained the scope of the bill, on its consideration by the House. He said:

"Mr. Speaker, this bill is well named a bill to prevent the failure of military justice. It was originally prepared by the War Department for the relief of the military courts and of the soldier. Every section has received very careful attention from the committee. The substance of the measure may be stated very briefly.

"At present, by statute, a military court may subpoena a witness to come before it, but when that witness appears there is no provision of law by which he can be compelled to testify. Military courts have no power to punish for contempt. In the present state of public feeling it was not thought advisable to give that power to military courts, but it was thought right that in such cases, in order to prevent the failure of justice, the military court might present the facts to the United States civil court, and that the man who refuses to attend and to testify might be tried and convicted of an offense against the United States.

"It will readily be seen that in cases, especially of stealing, embezzling, etc., where other parties who are not soldiers have been privy to the offense, justice will often fail as regards the soldier himself unless evidence can be compelled.

"The second section is directed to a curious anomaly. In the old days it was thought advisable to provide that courts-martial should sit only between the hours of eight in the morning and three in the afternoon. The result is that proceedings are often delayed by this provision. This bill repeals that section of the Articles of War.

"The third section gives to military officers who are appointed to conduct investigations the power to swear witnesses. At present officers of the Treasury Department or the Post-Office Department have the right to administer oaths; but an officer of the army, intent on the same course of investigation, has no such power, but must go to a notary public; and if he happen to be in Alaska or in any of the Western Territories, he may be unable to find an officer to take an affidavit. This bill simply gives a military officer the same power which belongs to other officers of the Government.

"The fourth section, Mr. Speaker, is one that tends most to the relief of the soldier himself; and I desire to call the special attention of the

members present to it. For the past ten or fifteen years there has existed in the army what has been called a summary court, which, in part, takes the place of a general court-martial, and has jurisdiction of small infractions of discipline and trifling offenses committed by the soldier. Under the court-martial system, a soldier who is accused of some trifling infraction of duty must wait sometimes even as long as three or four months before the court can be convened, and is subjected to great inconvenience, and often to imprisonment for the entire time.

"Of course, until the question of guilt or innocence can be tried by the court-martial, the soldier is under certain restraints according to the rules of the service. To avoid this condition, and for the punishment of slight offenses, like being late at quarters or failure to respond to roll-call, it is thought desirable to enlarge the jurisdiction and scope of the powers of these summary courts. By the present law the commanding officer of the post or of a detachment of troops might appoint a summary court to try small offenders and inflict punishment not exceeding confinement in the guard-house or labor for one month and the forfeiture of one month's pay.

"In the case of a non-commissioned officer, he might be reduced to the ranks in addition to the other punishment provided. The pending bill amends the jurisdiction given to such officers who are detailed to try these offenses, and is believed to be in the interest of the service as well as of the soldier himself. The amendment provides for cases that where there are several small offenses that might be tried together, or where the penalty is increased by reason of its being the second offense, under the law as it stands the accused is often kept waiting trial for months, in the more remote garrisons, and is sometimes forced to go long distances to a court-martial. To prevent these evils the jurisdiction of the summary court is extended to punishment for three months and forfeiture of three months' pay, but with the express proviso, which the committee added by amendment, that in case of trial by summary court the penalty shall not exceed one month, as heretofore, unless the accused himself, before the trial, waives his right to a trial by a court-martial and consents in writing to trial by the summary court.

"The fifth section of the bill is an amendment to the sixtieth article of war, which provides for the punishment of high crimes and misdemeanors in officers and men, such as embezzlement, stealing, frauds committed against the United States, and crimes of like character. The article provides that the party convicted shall be punished by fine or imprisonment, or by such other punishment as the court-martial may adjudge. This bill adds the words 'or by any or all of said penalties.'

"It will be recalled by members present that in the progress of a famous military trial within the last year, which involved what was believed to be the embezzlement of many thousands of dollars on the part of an officer of engineers, it was contended that only a fine or imprisonment could be awarded, and that on conviction of the fraud a guilty officer could not be punished by fine and imprisonment and by such other punishment as the court-martial may adjudge, but only by one of them, and that if both fine and imprisonment should be awarded the sentence would be illegal. It was therefore deemed necessary to add the words 'or by any or all of said penalties,' so that the full limit of punishment that the law evidently intended could be awarded in such cases. This new section provides that under this article

of war, on conviction, any or all of such penalties may be invoked."

The text of the measure as approved is as follows:

"That every person not belonging to the army of the United States who, being duly subpoenaed to appear as a witness before a general court-martial of the army wilfully neglects or refuses to appear, or refuses to qualify as a witness or to testify or produce documentary evidence which such person may have been legally subpoenaed to produce, shall be deemed guilty of a misdemeanor, for which such person shall be punished, on information, in the district court of the United States; and it shall be the duty of the United States district attorney, on the certification of the facts to him by the general court-martial, to file an information against and prosecute the person so offending, and the punishment of such person, on conviction, shall be a fine of not more than \$500 or imprisonment not to exceed six months, or both, at the discretion of the court: *Provided*, That this shall not apply to persons residing beyond the State, Territory, or District in which such general court-martial is held, and that the fees of such witness, and his mileage at the rates provided for witnesses in the United States district court for said State, Territory, or District shall be duly paid or tendered said witness, such amounts to be paid by the pay department of the army out of the appropriation for compensation of witnesses: *Provided*, That no witness shall be compelled to incriminate himself or to answer any questions which may tend to incriminate or degrade him.

"SEC. 2. That article 94, section 1342, of the Revised Statutes of the United States be, and the same is hereby, repealed.

"SEC. 3. That section 183 of the Revised Statutes of the United States be, and the same is hereby, amended so as to read as follows:

"SEC. 183. Any officer or clerk of any of the departments lawfully detailed to investigate frauds on, or attempts to defraud, the Government, or any irregularity or misconduct of any officer or agent of the United States, and any officer of the army detailed to conduct an investigation, and the recorder, and, if there be none, the presiding officer of any military board appointed for such purpose, shall have authority to administer an oath to any witness attending to testify or depose in the course of such investigation."

"SEC. 4. That article 83, section 1342, of the Revised Statutes of the United States be, and the same is hereby, amended to read as follows:

"ARTICLE 83. Regimental and garrison courts-martial and summary courts detailed under existing laws to try enlisted men shall not have power to try capital cases or commissioned officers, but shall have power to award punishment not to exceed confinement at hard labor for three months or forfeiture of three months' pay, or both, and in addition thereto, in the case of non-commissioned officers reduction to the ranks and in the case of first-class privates reduction to second-class privates: *Provided*, That a summary court shall not adjudge confinement and forfeiture in excess of a period of one month, unless the accused shall before trial consent in writing to trial by said court, but in any case of refusal to so consent, the trial may be had either by general, regimental, or garrison court-martial, or by said summary court, but in case of trial by said summary court without consent as aforesaid, the court shall not adjudge confinement or forfeiture of pay for more than one month."

"SEC. 5. That article 60, section 1342, of the

Revised Statutes of the United States be, and the same is hereby, amended by inserting after the words 'shall, on conviction thereof, be punished by fine or imprisonment, or by such other punishment as a court-martial may adjudge,' the words 'or by any or all of said penalties.'"

Hazing.—No subject attracted more general attention during the session than hazing at West Point. It was reported that Oscar L. Booz, of Bristol, Pa., had died from the effect of injuries received at the hands of his comrades while a cadet at the Military Academy, from June 20 until Oct. 4, 1898; and the House of Representatives ordered an investigation into the practise of hazing. A resolution was introduced Dec. 4, 1900, directing the Secretary of War to investigate the Booz case, and report to Congress. Dec. 11 the Committee on Military Affairs submitted a report containing the statement of the Secretary of War that he had ordered an investigation and had detailed Gen. Brooke and Cols. Gillespie and Clous to act in the matter. A statement from Col. Mills, superintendent at West Point, as to the Booz case was also submitted. A resolution was then passed by the House directing the Secretary of War to report the results of the military investigation, and also providing for a special committee, consisting of five members, to examine into and report upon the practise of hazing. The report of this committee contained the following interesting summary of the hazing devices commonly in use at West Point:

"They are divided into three general classes:

"1. Things done professedly for the good of fourth-class men or of the service.

"2. Things done to punish fourth-class men for violations of the upper-class code.

"3. Things done apparently without purpose, except to annoy, or for the mere amusement of upper-class men.

"Chief among the first of these classes is—

"**Bracing.**—This consists in requiring the fourth-class man to throw his shoulders back until the blades meet, draw his chin in, to a wholly unnatural degree, draw his abdomen up, and so walk that his toes touch the ground before his heels. It is claimed this is done to give a military carriage; but it has the contrary effect. It is such an exaggeration of the attitude of a soldier and is so irksome that when relieved from constraint the inevitable tendency is to more than normal relaxation and a slouchy carriage. The upper-class men have required the fourth-class men to brace at all times on the company streets, in camp, and frequently on other occasions, and this has on more than one occasion resulted in the victim fainting. Some doubt is cast upon the absolute belief upon the part of cadets that bracing is necessary to a good military bearing and that it is their duty to practise it to attain that end, as they never brace an upper-class man, no matter how slouchy he may be. Bracing is prohibited at the academy and has been frequently severely punished, but has been constantly and defiantly persisted in up to the time of the hearing by your committee.

"Under the like claim as to their motives the upper-class men have deprived fourth-class men of the privileges accorded them by the authorities, such as having Saturday afternoon leave, and have ordered fourth-class men to abstain from reading and letter-writing except on Sunday.

"The following are some of the second class of annoyances which have been imposed on fourth-class men:

"**Eagling.**—This consists in the fourth-class man standing on his toes with his arms extended,

dropping down to a sitting posture, rising part way, waving his arms like wings, again depressing his body to a sitting posture, rising in like manner, and continuing this during the period or for the number of times required. A fourth-class man has frequently been required to eagle 100 and 200 times, and in some cases 300 to 400 times, and in at least one case above 600 times.

"Wooden willying."—This consists in a fourth-class man taking the regulation gun and drawing it up to the position of 'fire'; then dropping it to the position of 'ready,' and continuing this to the period or number of times required. This has frequently been required 100 to 200 times.

"Doing footballs."—This consists in lying on the back and, without bending the knees, drawing the legs up until they are at right angles with the body and then dropping them to the earth, continuing this for such period or number of times as may be required. A lower-class man has frequently been required to do this from 75 to 100 times.

"Choo-chooing."—This consists in lying on the back and working both legs and arms in imitation of the motion of the wheels of a locomotive.

"Dipping."—This consists in placing one's body face down, with his hands and toes on the ground, or with the toes on the ground and the hands on a bucket, box, or the like, holding the body as straight as possible, and raising and lowering it by the use of the arms alone.

"Taking plebe's rest."—This consists in standing on the toe of one foot, say the left, and raising the right leg up, resting the right elbow on the knee and the chin in the right hand.

"Stretching."—This consists in hanging by the hands from a bar or rail on the canvas shelf in the tent, known as the stretcher, with the legs bent at the knees, so as to be sure and have no support from below. A fourth-class man is frequently required to hang this way until he drops from exhaustion.

"Holding out gun."—This consists in holding out both arms in front and at right angles with the body and supporting upon the hands a regulation gun.

"Swimming to Newburg."—This consists in lying face down and working the hands and feet as if swimming.

"Sitting on bayonet."—This consists in assuming, while on one's feet, a sitting posture, with the bayonet standing, point up, under him, so that if through weariness he allows his body to sink down he will be punctured with the bayonet.

"Holding out Indian clubs."

"Holding out dumb-bells."

"Holding out the cleaning box."

"Sweating."—This consists in putting a fourth-class man in a tent with sides and back down and making him put on his rain coat, and frequently wrap himself in the bedclothing, and remain there any time required up to about half an hour. This is done in July and August, and has more than once resulted in the fourth-class man fainting.

"Soirées."—It has been a common practise to call several fourth-class men into a tent at one time, between supper and tattoo, and put them through numerous forms of exercising, usually making them eagle, wooden willy, do footballs, and hang on the stretcher. These meetings have been known as soirées.

"Requiring the taking of hot sauce."—For a long time there has been kept at the academy, in connection with the mess, what is known as tropical sauce, which is similar to tabasco sauce. It is commonly known at the academy as hell sauce. Sometimes it is spoken of as pepper-sauce in the evidence, but it is much stronger than ordinary

pepper-sauce. It contains a large amount of oil of capsicum, and is intended for use in soup and other foods, and by reason of its highly irritant character is not fit for use by itself, when undiluted. It has with great frequency been administered as a punishment to fourth-class men at mess both while in camp and in barracks, and at some times at places other than the mess, in doses usually from two to five drops, but quite often in doses of fifteen drops, and in some cases between one and two teaspoonfuls.

"Eating quinine."—Cadets have been required to chew up as high as four quinine pills at a time, and, after thoroughly masticating, swallow them.

The following are some of the third class of annoyances which have been imposed:

"Qualifying."—This consists in requiring a fourth-class man to eat, at one sitting, an extraordinary amount of some otherwise unobjectionable article, such as molasses, prunes, peach-pie, or cabbage. In qualifying on molasses a cadet must usually eat at one time a soup plate full. In qualifying on prunes he has been made to eat as high as 130. A number of cadets have become nauseated by this process.

"Feet inspection."—This consists in going to a fourth-class man's bed with a candle and pulling the covers off his feet and inspecting them, and while doing so, intentionally, but apparently by accident, dropping hot grease from the candle on the bare feet.

"Dragging a man out of bed."—This is usually done by taking hold of the bed and dragging it and its occupant into the company street; but it has been done by taking the victim by the heels and dragging him out.

"Throwing sentinel in the ditch while on duty."

"Sliding on soaped floor."—This is done in the bath-room, and the fourth-class man is made, while naked, to slide over the floor after it has been soaped.

"Standing on head in bath-tub filled with water."—In this the fourth-class man is usually required, while standing as indicated, to recite something, and, as a result, the water runs into his nose and mouth and strangles him.

"Standing on head in tent between tattoo and taps."—Whenever an upper-class man puts his foot into a fourth-class man's tent between tattoo and taps the lower-class man must at once stand on his head; and some upper-class men require fourth-class men, while in this position, to recite something and make a left-hand salute with the right foot. Of late, to avoid being caught, it has been the practise of the upper-class men from in or across the company street to say, 'My foot is in your tent,' and thereupon the fourth-class man must act as if the foot were in fact there.

"Standing orders."—When these orders are given, a fourth-class man is required to stand up the entire day except while at mess and sink.

"Pillow fights."—These, harmless in themselves, are a serious wrong, because the upper-class men order the fourth-class men to engage in them at night, and then the latter are charged with demerits for making a disturbance in camp, and thus lose standing in their class.

"Cold baths in the company street."—A fourth-class man is required to entirely strip himself and run down the company street while parties on the sides throw cold water on him. The indecency of this performance needs no comment.

Many of the things done by the upper-class men are boyish pranks and are known as 'funny formations,' but even these are frequently conducted in such a way as to outrage the noblest feelings of the heart.

"Philip H. Sheridan, Jr., was compelled to ride a broomstick up and down the company street, saying, 'Turn, boys, turn; we are going back,' in mockery of his illustrious father's achievement at Winchester.

"Your committee feel that a sufficient number of the methods used to harass and annoy have been named and explained to enable the House to understand their general nature. As this system grew and became more and more oppressive it became necessary to have some effective means to coerce obedience to these unlawful behests of upper-class men, and to meet this demand a system of fighting has gradually grown up which is shocking in its character. Each of the upper classes has a regular fighting committee, and whenever it is reported, for example, to the president of the third class that some fourth-class man has refused to obey any of the unlawful and illegal orders of an upper-class man, or has in some other important respect violated the upper-class code, all of which, it must be borne in mind, is in direct conflict with the regulations and rules of the academy, the president calls his fighting committee together, and, if it thinks the charge true, it orders the fourth-class man called out and names the man who is to whip him."

The report closed with a stringent measure for the suppression of hazing, recommended by the committee as necessary, though the cooperation of the superintendent was assured, and the pledges of the cadets at West Point had been given to discontinue hazing. No separate bill on the subject was passed, however, but a prohibition and a penalty were put into the appropriation bill for the support of the Military Academy for the year ending June 30, 1902. That measure had been prepared early and passed the House of Representatives Dec. 20, 1900, and it was amended by the Senate and passed Feb. 6, 1901. The chief amendment was a section against hazing. The House did not concur, and a conference committee was appointed and a report adopted, adding to the appropriation bill the greater part of the measure recommended by the special committee of the House, which had investigated the matter. After a second conference the Senate amendment, slightly changed, was adopted, Feb. 27 and 28, and the appropriation bill was approved by the President March 2.

There was no extended debate on the subject, though the usual suggestions in favor of hazing as a means of discipline were brought forward, for the evidence seemed to be conclusive that the practises which prevailed at West Point had degenerated into something akin to bullying and brutality; and the popular sentiment against their continuance made its influence felt in Congress. The clause in the appropriation bill is as follows:

"Provided further, That the superintendent of the Military Academy shall make such rules, to be approved by the Secretary of War, as will effectually prevent the practise of hazing; and any cadet found guilty of participating in or encouraging or countenancing such practise shall be summarily expelled from the academy and shall not thereafter be reappointed to the corps of cadets or be eligible for appointment as a commissioned officer in the army or navy or marine corps until two years after the graduation of the class of which he was a member."

Increase of the Navy.—In the naval appropriation bill the following provision was made, authorizing the Secretary of the Navy to prepare for the building of new vessels:

"That, for the purpose of further increasing the

naval establishment of the United States, in accordance with the latest improvements in the construction of ships and the production of armor and armament therefor, the Secretary of the Navy is hereby directed to prepare the plans and specifications of two seagoing battle-ships and two armored cruisers, carrying the most suitable armor and armament for vessels of their class, and to submit to Congress a general description of such battle-ships and cruisers on the first Monday in December next; and said Secretary, in preparing said plans and description, shall review and further consider the questions whether said ships should be sheathed or unsheathed; what should be the weight and extent of the armor therefor; what should be the form and location of the turrets; whether any changes should be made in the number and kind of guns of the various sizes heretofore constituting the armament of similar ships; what, if any, torpedo-tubes should be built into large ships; to what extent electricity should be used for auxiliary purposes, and all other questions which have arisen and are now pending among naval architects and ordnance experts concerning the construction of battle-ships and cruisers under modern conditions; and said secretary shall, to such an extent as he may deem expedient, report to Congress in connection with said description his opinion upon the foregoing questions; and the Secretary of the Navy is hereby authorized to exercise his discretion as to the sheathing and coppering of naval vessels herein and heretofore authorized to be built."

In the discussion of the appropriation bill the old question as to the price of armor-plate came up. At the first session of the Congress it was provided, in authorizing the construction of new vessels, that \$4,000,000 should be appropriated for a Government establishment for the manufacture of armor-plate, in case the Secretary of the Navy could not secure from the two great corporations engaged in the business such armor-plate of the best quality at a reasonable and equitable price. These firms had set \$545 a ton as their minimum price, but the Secretary of the Navy, after the declaration of this policy, made contracts at a reduction of \$90 a ton. Mr. Butler, Senator from North Carolina, argued that even that rate was \$150 too much, and he criticized sharply the transactions between the armor-plate makers and the Government. He said:

"Mr. President, on the last page of the bill, page 75, beginning at line 6, there is an innocent-looking little paragraph, covering only a few lines, but it winds up at the end with an appropriation of \$4,000,000 for armor-plate.

"Mr. President, that is not all of it, either. If the amount that we have contracted for had been provided for in this bill, the item would have read \$16,564,550, which is the amount of the contract, and which we might as well pay now or pay in the next bill. Sixteen million five hundred and sixty-four thousand five hundred and fifty dollars is the required amount. And yet, with this enormous appropriation for this one item, to-day the Senate is absolutely precluded from considering the matter as far as action on the 36,000 tons of armor and over which is already contracted for under the last naval bill is concerned.

"Why? Because unwisely, as I think, when the last naval appropriation bill was before the Senate, we not only authorized the Secretary of the Navy to contract for this armor-plate, but we left him *carte-blanc* authority to contract for it at any price he saw fit, or at any figure that the armor trust might hold him up to. We not only, in my opinion, put him where he had to agree to

an exorbitant price, but, as I called to the attention of the Senate at that time, we established a most unwise and dangerous precedent when we surrendered and abdicated legislative power and responsibility and invested it in the hands of a secretary or the head of a bureau.

"Now, Mr. President, we are in for it for \$16,564,550, when a good price to these companies for the same armor would be at least \$5,000,000 less. Here goes a donation, a contribution to this armor trust of the modest sum of, at least, \$5,000,000 above a fair—a good profit. I say that because the official reports of the Secretary of the Navy on an official investigation authorized by Congress show it.

"I admit that the price paid for the armor of the Kearsarge and the Kentucky was \$589.13 per ton, but the armor for these vessels was contracted for by the act of March 2, 1895, before this question had been brought squarely to the attention of the Senate. There seems to have been very little discussion of the subject in Congress up to that time. But since that time the matter has been fully discussed at each session of Congress, and since Congress has been informed as to the facts it has each time decided that \$300 a ton was a fair price. We have done that year after year, and yet, strange to say, every year since that time we have paid more than \$400 a ton.

"Now, that is an anomaly; but yet it happened in this way: The Senate would say, 'The armor trust is holding us up because here are three battle-ships in the stocks waiting for armor; but if we do not finish them we are subject to fines and penalties which we have fixed in a contract; we may need these vessels; there may be a war, and we had better be held up by the throat by this armor trust and let them rob us for enough for these three battle-ships for the present'; and the Senate then would solemnly vote that 'hereafter we will not pay more than \$300 a ton.' The Secretary of the Navy would go on and make contracts for the next vessels authorized, and then report at the next session of Congress that he could not get armor at \$300 a ton, and therefore the vessels were on the stocks; the vessels were finished excepting the armor, and that we ought to submit to this robbery one more time to get enough for these vessels waiting for armor.

"Mr. President, that same thing has gone on over and over every year for the last five or six years. Now, why is it that the Senate and the Congress has allowed itself to be put into this ridiculous attitude—has allowed itself to be played with by this great armor trust? Is it a fact that we have been powerless? Is it a fact that we did not have the power or the capability to prevent it? No, Mr. President, the whole trouble lies in the fact that Congress has never yet had the courage, when fixing the price of armor, to say in the same law that if they will not furnish the armor for \$300 a ton, which is a profit of \$75 a ton on every ton to the factories, then we will build an armor-plate factory and make it ourselves.

"Every Senator on this floor knows that if we had put a clause like that in the first bill, six years ago, we would have got every pound of armor that we needed for \$300 a ton. And yet, for some reason, some strange reason never expressed, for some inscrutable purpose, by some mysterious method of reasoning, or refusing to reason, we have each year said, 'the next year we will not pay more than \$300,' but voted down the provision that if they do not make it for that price we will build an armor-plate factory. Our action in refusing to provide for a Government

armor-plate factory, in the event the trust refuses to furnish armor at \$300 a ton, has been an invitation to the armor-plate trust to refuse to furnish the armor and wait for us to surrender to them.

"Those of us who have tried to save the Government from being robbed by this great trust have each year pointed out that we would never be free from their clutches until we did make such a provision; and we pointed out, as far back as five years ago, that we might have a war in the near future, and in the case of a war we would still be more at the mercy of this trust than then, because in that case we might have to pay a much larger price on account of the exigencies of the situation, and not having time to build an armor-plate factory. The only reason why they did not make us pay more a ton than we have in the last war is because the war did not last long enough for them to get a pull at us.

"Am I justified in saying this about the men who own and control this great trust? I do not know a single one of them personally. They may be good men to their wives and children; they may be model husbands; they may sit in the amen corner of the church on Sunday and say 'Amen' as piously and more so than anybody else in it; they may be as upright and correct in their daily lives as most men, but I do know that their judgment is worth nothing, or that they deliberately tried to rob Congress with a false statement of facts."

Miscellaneous.—Two important measures were passed for the allotment of Indian lands, and both were approved March 1, 1901. They provided for the distribution of land in severalty, town sites, municipal corporations, and various reserved tracts. The act dealing with the Cherokee tribe set forth the main purpose as follows:

"All lands belonging to the Cherokee tribe of Indians in Indian Territory, except as herein reserved, shall be appraised at their true value, considering location and fertility of soil in each case, excluding improvements placed by allottee on the lands selected by him: *Provided, however,* That in cases where a citizen holding lands in excess of his rightful share has failed to sell or remove the buildings and fences from said excessive holding on or before the 1st day of July, 1901, the value of the buildings and fences shall be added to the value of the land by the appraisement committee. The appraisement shall be made under the direction of the Dawes Commission by such number of committees of appraisement as may be deemed sufficient to expedite the work, one member of each committee to be appointed by said commission and one by the principal chief, and if the members of any committee fail to agree as to the value of any tract of land, the value thereof shall be determined by said commission. The committees shall make report of their work to the commission as may be required. The commission shall prepare reports of the same in duplicate, and transmit them to the Secretary of the Interior for his approval, and when approved one copy shall be furnished the principal chief and one copy returned to the office of the commission for its use in making allotments as herein provided. All lands of said tribe, except as herein provided, shall be allotted by said commission among the citizens of the tribe entitled to share therein, so as to give to each an equal share of the whole, in value, as nearly as may be, in manner following: There shall be allotted to each citizen 80 acres of land (boundaries to conform to the Government survey as nearly as may be) which may be selected by him, so as to include improvements which belong to him. Eighty acres of land,

valued at \$6.50 cents per acre, shall constitute a standard allotment, and shall be the measure for the equalization of values; and any allottee selecting lands of less value than such standard may select other lands, not lawfully held or occupied by any other citizen, which, at their appraised value, will make his allotment equal in value to the standard so fixed." The act dealing with the Creek tribe was shaped with the same design: "All lands belonging to the Creek tribe of Indians in the Indian Territory, except town sites and lands herein reserved for Creek schools and public buildings, shall be appraised at their true value, excluding only lawful improvements or lands in actual cultivation. The appraisement shall be made under direction of the Dawes Commission by such number of committees, with necessary assistance, as may be deemed necessary to expedite the work, one member of each committee to be appointed by the principal chief; and if the members of any committee fail to agree as to the value of any tract of land, the value thereof shall be fixed by said commission. Each committee shall make report of its work to said commission, which shall from time to time prepare reports of same, in duplicate, and transmit them to the Secretary of the Interior for his approval, and when approved one copy thereof shall be returned to the office of said commission for its use in making allotments as herein provided. All lands of said tribe, except as herein provided, shall be allotted among the citizens of the tribe by said commission so as to give each an equal share of the whole in value, as nearly as may be, in manner following: There shall be allotted to each citizen 160 acres of land—boundaries to conform to the Government survey—which may be selected by him so as to include improvements which belong to him. One hundred and sixty acres of land, valued at \$6.50 cents per acre, shall constitute the standard value of an allotment, and shall be the measure for the equalization of values, and any allottee receiving lands of less than such standard value may, at any time, select other lands, which, at their appraised value, are sufficient to make his allotment equal in value to the standard so fixed."

In the sundry civil service appropriation bill it was provided: "That the commission authorized by the act entitled 'An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1898, and for other purposes,' approved June 4, 1897, to revise and codify the criminal and penal laws of the United States, is hereby directed to revise and codify, in accordance with the terms and provisions of said act and the acts supplementary thereto, all laws of the United States of a permanent and general nature in force at the time when the same shall be reported. That in performing this duty the said commission shall bring together all statutes and parts of statutes relating to the same subjects, shall omit redundant and obsolete enactments, and shall make such alterations as may be necessary to reconcile the contradictions, supply the omissions, and amend the imperfections of the original text; and may propose and embody in such revision changes in the substance of existing law; but all such changes shall be clearly set forth in an accompanying report, which shall briefly explain the reasons for the same. That the said commission shall arrange such revision under titles, chapters, and sections, or other suitable divisions and subdivisions, with head notes briefly expressive of the matter contained in such division, and with marginal notes so drawn as to point to the con-

tents of the text, and with references to the original text from which each section is compiled, and to the decisions of the courts of the United States explaining or construing the same; and shall provide by an index for an easy reference to every portion of such revision. That when the commission have completed such revision in accordance herewith, it shall cause a copy of the same, in print, to be submitted to Congress, that the statutes so revised and codified may be re-enacted if Congress shall so determine."

The following amendments to the Revised Statutes were made: Sections 183; 1111; 1225; 1319; 1338; 1342, article 60; 1342, article 83; 4427; 4472; 4708; 5153; 5546; 1342, article 94. Section 1278 was repeated.

The following acts were passed:

For the relief of settlers under the public land laws on lands within the indemnity limits of the grant to the Great Northern Pacific Railroad Company.

For the construction of a steam revenue cutter for service in the harbor of Boston.

To supplement existing laws relating to the disposition of lands.

To amend an "Act temporarily to provide revenue and a civil government for Porto Rico, and for other purposes."

Authorizing the Attorney-General, upon the request of the Secretary of the Interior, to appear in suits brought relative to school lands.

To provide for ports of entry and delivery in the Territory of Hawaii.

To amend the act for a civil government for the territory of Alaska.

Granting a charter to the General Federation of Women's Clubs.

Ratifying the agreement between Tennessee and Virginia with reference to the boundary-line of said States.

Providing for leaves of absence to certain employees of the Government.

To authorize the Secretary of the Navy to loan naval equipment to certain military schools.

To confirm to the city of Albuquerque, New Mexico, the "Ville de Albuquerque land grant."

For the preparation of plans or designs for a memorial or statue of Gen. Ulysses S. Grant in the city of Washington.

Requiring common carriers engaged in interstate commerce to make full reports of all accidents to the Interstate Commerce Commission.

Providing that entrymen under the homestead laws, who have served in the United States army, navy, or marine corps during the Spanish war or the Philippine insurrection, shall have certain service deducted from the time required to perfect title under homestead laws, and for other purposes.

Granting permission to the Indians on the Grand Portage Indian Reservation, in the State of Minnesota, to cut and dispose of the timber on their several allotments on said reservation.

To provide for celebrating the one hundredth anniversary of the purchase of the Louisiana territory by the United States by holding an international exhibition of arts, industries, manufactures, and the products of the soil, mine, forest, and sea in the city of St. Louis, in the State of Missouri, and for other purposes.

To restore to the public domain a small tract of the White Mountain Apache Indian Reservation, in the Territory of Arizona.

For the protection of birds, game, and fish in the District of Columbia.

For the reward of enlisted men in the navy or marine corps.

To incorporate the Society of American Florists and Ornamental Horticulturists within the District of Columbia.

Granting homesteaders on the abandoned Fort Fetterman Military Reservation, in Wyoming, the right to purchase one quarter section of public land on said reservation as pasture or grazing land.

Extending the mining laws to saline lands.

Supplementary to an act entitled "An Act to prohibit the coming of Chinese persons into the United States," approved May 5, 1892, and fixing the compensation of commissioners in such cases.

For beacon lights at Point Dums, Colorado; Point No Point, Chesapeake Bay; Hambrook Bar, Maryland; Cambridge, Maryland; Grubbs Landing, Delaware; and Hillsboro Point, Florida.

Extending immediate transportation privilege to Everett, Wash.; Fall River, Mass.; Honolulu, Hawaii; Milwaukee, Wis.; New Bedford, Mass.; Saginaw, Mich.

The construction of bridges was authorized across Alabama river, at Montgomery, Ala.; Arkansas river, near Pine Bluff, Ark.; Clinch river, Kingston, Tenn.; Choctawhatchee river, Geneva County, Alabama; Cumberland river, Carthage, and Nashville, Tenn.; Delaware river, Trenton, N. J.; Devil's lake, North Dakota; Little river, near Big lake, Arkansas; Lavaca Bay, near Nobles Point, Texas; Lumber river, Lumberton, N. C.; Manatee river and Gasparilla Sound, Florida; Mississippi river at Grays Point, Mo.; Mississippi river, Burlington, Iowa; Mississippi river, St. Louis, Mo.; Monongahela river, North Charleroi, Pa.; Monongahela river, Port Vue, Pa.; Nehalem Bay and river, Oregon; Pearl river, Monticello, Miss.; Red river, Fargo, N. Dak.; Red river, Hooks Ferry, Texas; Red river, Turnbolls island, Louisiana; Rock river, Henry County, Illinois; St. Joseph river, St. Joseph, Mich.; Tombigbee river, near Demopolis, Ala.; Warrior river, between Walker and Jefferson Counties, Alabama; Yalobusha river, Grenada County, Mississippi.

Various acts were passed dealing with the affairs of the District of Columbia; others making provisions for United States courts at different points; together with a multitude of private bills.

Appropriations.—The appropriations for the second session of the Fifty-sixth Congress, covering the year closing June 30, 1902, were as follows: Agriculture, \$4,578,400; army, \$115,735,649.10; diplomatic and consular, \$1,850,228.76; District of Columbia, \$8,504,969.94; fortification, \$7,364,011; Indian, \$9,596,221.09; legislative, etc., \$24,600,753.85; Military Academy, \$747,653.68; navy, \$78,653,973.75; pension, \$145,245,230; post-office, \$123,782,688.75; sundry civil, \$62,553,108.21; total, \$583,212,888.13. Deficiencies, \$14,340,574.94; total, \$597,553,463.07. Miscellaneous, \$8,000,000; total regular annual appropriations, \$605,553,463.07. Permanent annual appropriations, \$124,358,220; grand total regular and permanent annual appropriations, \$729,911,683.07.

The grand total of appropriations by the Congress for two years was \$1,440,062,545. The amount appropriated by the Fifty-fifth Congress was \$1,568,212,637. Mr. Cannon, of Illinois, in commenting upon the expenditures provided for, said: "Of the total appropriations made at this session, at least \$30,000,000 will not, in the light of past experience, be expended. This considerable margin between actual expenditures and appropriations made by Congress indicates a sum total of expenditures during the fiscal year 1902 of not exceeding \$699,911,683.07; and this sum includes \$53,000,000 on account of the sinking-

fund requirements for the fiscal year 1902, which, of course, under the terms of the law, will be met only to such extent as surplus revenues in the Treasury may permit. After meeting the fullest ordinary requirements of the public service under the appropriations which have been made, there will surely remain sufficient revenue for 1902 to meet not less than \$30,000,000 of the requirements of the sinking-fund, amounting in all, as stated, to \$53,000,000; and from other surplus money in the Treasury the whole sinking-fund obligations for the year can and will be met, if deemed expedient by the Secretary of the Treasury. The large deficiencies provided for during the fiscal year 1899 by the first regular session of the Fifty-fifth Congress, amounting to \$349,772,389.96, were designed almost in their entirety to cover the expenses of the military and naval establishments during the fiscal years 1899 and 1900, incident to the war with Spain. The most marked increase indicated in the appropriations for ordinary expenses of the Government made for the two years 1901 and 1902 at the two sessions of this Congress over those of the two preceding years, 1899 and 1900, provided for by the Fifty-fifth Congress, is for the postal service. This is the one branch of the public service that can not be restrained in its growth. It registers with precision and exactness the welfare of the nation and the agricultural, industrial, and commercial condition of the country. That the growth of the postal service for the two years provided for by this Congress is nearly 8 per cent. greater than was the growth of the appropriations made therefor by the Fifty-fifth Congress over that provided for by the Fifty-fourth Congress is a source of congratulation. It is an axiomatic truth in economic science that in order to reduce taxes public expenditures must first be retrenched. Acting upon this philosophy, the appropriations, as I have shown, have been reduced \$128,150,091.89 by this Congress under those provided for by its predecessor, and this has rendered possible a reduction of taxes in the sum of \$41,000,000."

Mr. Livingston, of Georgia, compared the appropriations with those made by the Fifty-fourth Congress, and he took a more gloomy view. He said: "The Fifty-sixth Congress (the one just closed) is the first Congress appropriating for the support of the Government since the close of the so-called Spanish-American War. The difference between the appropriations made by the Fifty-sixth Congress and those made by the Fifty-fourth Congress amounts to \$395,482,272.08. During the session just closed the demands of the people, through their representatives, for the construction of the Nicaragua Canal, have gone unheeded; for new public buildings they have been persistently denied. The river and harbor bill has been permitted to fail. The payment of just claims of honest people against the Government has not been provided for. It is doubtless conceived to be wisdom on the part of the leadership of the dominant party in Congress and the Administration to have denied these just demands of the people in order to provide for this enormous increase in expenditures that is almost wholly required in order to support the increased military establishment that has been inaugurated under the policy of the Republican party. Notwithstanding the heavy taxation of the people and the enormous sums that are collected each year to be poured in the Federal Treasury, the public works and internal improvements of every character throughout the country have practically been denied by this Congress. The most casual examination of this table makes comment practically un-

necessary. It shows that the army for each of the two years prior to the Spanish-American War cost a little over \$23,000,000, and but little more than \$46,000,000 for the two years covered by the Fifty-fourth Congress, while for the army for each of the two years since that war, 1901 and 1902, it costs nearly \$115,000,000, or \$230,000,000 for the two years, exclusive of deficiencies that have been provided for in large sums out of appropriations made for expenses of the Spanish War during the Fifty-fifth Congress. The navy cost for the years 1897 and 1898, respectively, \$30,562,000 and \$33,000,000, or \$63,562,000 for the two years, while for the years 1901 and 1902 these appropriations amount to \$65,140,000 and \$78,653,000, respectively, or nearly \$144,000,000 for the two years. For the payment of pensions the appropriations show an average annual increase of nearly \$4,000,000 for the current and next fiscal year over the years 1897 and 1898, or nearly \$8,000,000 for the two years. In a word, this table shows that the price to the people of the policy of this administration that has been thrust upon them by the Republican party is in round numbers \$400,000,000 within a period of two years, and the half that is contemplated has not yet been put in operation. The ship-subsidy measure, that has been deferred but not abandoned, will cost \$180,000,000 more, to say nothing of the lesser schemes."

These different interpretations of a few simple figures illustrate admirably the effect of partizan opinion on the mental processes of really able politicians, not meaning to be at all unfair. And the perusal of a debate in Congress opens strange vistas into human nature and historic possibilities.

CONNECTICUT. (See under UNITED STATES.)

COSTA RICA, a republic in Central America. The Congress is a single chamber of 21 representatives, elected for four years by electoral colleges, the members of which are elected by the votes of all self-supporting adult males. The President is elected for four years, and may be chosen for successive terms. The President for the term beginning May 8, 1898, is Rafael Iglesias. The Vice-Presidents are D. Iglesias Llorente, J. B. Quiros, Federico Tindoc, and Ascencion Esquivel. The Cabinet was composed as follows in the beginning of 1901: Secretary of State, having charge of the Departments of Foreign Affairs, Worship, Public Instruction, Public Charity, and Justice, J. A. Facio; Secretary of the Interior, Police, and Public Works, Ricardo Pacheco; Secretary of Finance, Juan B. Quiros; Secretary of War and Marine, José Astua Aquilar.

Area and Population.—The area of the republic is about 23,000 square miles. The population was estimated at 310,000 in 1899. San José, the capital, has about 25,000 inhabitants. In 1892 there were 6,289 foreigners, and about 1,000 immigrants have been added for each year since. There were 1,763 marriages, 13,012 births, and 9,925 deaths in 1897.

Finances.—The revenue in 1900 was 8,228,292 pesos, and expenditure 7,448,120 pesos. Of the revenue 3,388,000 pesos came from customs and 2,400,000 pesos from excise. Of the expenditure 4,926,310 pesos were for the general administration and 979,652 pesos for interest on the debt.

The internal debt in 1900 amounted to 6,916,072 colons. The colon is the new unit of value under the act of Oct. 26, 1896, adopting the gold standard, while continuing the legal tender of the existing silver currency, and establishing the ratio of 26½ to 1. The new subsidiary silver, coined at this ratio, will be legal tender up to 10 colons. The value of the colon is 46.5 cents in United States currency. Pieces of 2, 5, 10, and 20 colons

are coined. The money in circulation at present is principally paper, worth in exchange something less than the colon on the gold value of the silver peso. The new metallic currency was first put into circulation on July 16, 1900. There have been 5,000,000 colons coined, and the national silver currency amounts to about 1,000,000 colons. The foreign debt, amounting to £2,085,000, under an arrangement made with the creditors in March, 1897, will be reduced at the rate of £10,000 a year from 1917. The interest, on the plea of the depreciation of silver, was lowered to 3 per cent. on £525,000, and 2½ per cent. on £1,475,000.

Commerce and Production.—The total value of imports in 1899 was \$4,136,707 in gold, and of exports \$4,929,955. The export of coffee was \$2,943,000; of bananas, \$1,173,000; of woods, \$292,000; of precious metals, \$267,000; of hides and skins, \$109,000; of gum, \$106,000. The quantity of coffee exported was 33,807,000 pounds; of bananas, 2,962,770 bunches. Corn, rice, and potatoes are raised for food. The cultivation of cacao has been introduced. The working of gold and silver mines has almost ceased. The prosperity of the country depends almost solely on the coffee-crop, which is constantly increasing. The banana industry is developing rapidly, and also rubber-plantations, which require 7 or 8 years before any profits can be obtained. The Government in April, 1901, increased by 50 per cent. the duties on all importations, promising as an offset a reduction in the export duty on coffee, 1 cent a pound, a serious burden on producers, which by a later decree was abolished from Sept. 1, 1901. Imports in 1900 were exceptionally heavy.

Navigation.—During 1898 the ports of Limon and Punta Arenas were visited by 449 vessels, including 26 steamers which call monthly at Limon, 10 of them at Punta Arenas. The merchant navy consisted of 2 sailing vessels, of 551 tons, and 3 steamers, of 600 tons.

Railroads, Posts, and Telegraphs.—The railroads completed at the end of 1899 had a length of 162 miles. A railroad from Limon to Alajuela, 137 miles, is being carried through to the Pacific coast. In the middle of 1900 there remained only 21 miles to be completed between San José and the new port of Tiveves on the Pacific.

The number of internal letters, etc., that passed through the post-office in 1898 was 1,552,287; the number sent and received in the international service, 848,015.

The telegraphs in 1899 had 880 miles of wire. The number of messages was 342,572. There were 200 miles of telephone lines.

CRETE, an island in the Mediterranean, formerly a Turkish vilayet, since Dec. 21, 1898, an autonomous province under the suzerainty of the Porte, and under the administration of a high commissioner of France, Great Britain, Italy, and Russia. Georgios, Prince of Greece, born June 24, 1869, second son of the King of the Hellenes, was nominated High Commissioner. The Constitution was adopted on April 28, 1899. The legislative body is the Boule, the members of which are elected for two years in single districts in the proportion of 1 to 5,000 inhabitants, excepting ten members appointed by the Prince, making a total of 73 members. The Boule meets biennially. The members of the Prince's council, who are nominated by him and have the right to speak in the Chamber, but not to vote, were in the beginning of 1901 as follow: Finance, Constantinos M. Fournis; Interior, Manoussos R. Koundouros; Public Instruction and Worship, Nicolas G. Yamalakis; Justice and Foreign Affairs, Eleutheros C. Venzelos.

Area and Population.—The area of the island is 3,326 square miles. The population on June 17, 1900, was 307,369, of whom 267,266 were Orthodox Greeks, 33,281 Mohammedans, 726 Israelites, and 6,096 foreigners. Among the foreigners were 3,593 Greeks and 1,071 Turks. Canea, the capital, had 20,972 inhabitants; Candia, 22,331; Rethymo, 9,311. The population of the several departments was: Heracleion, 92,958; Canea, 76,354; Laseithi, 53,165; Rethymo, 59,835; Sphakia, 25,057. The Greek orthodox population of the island was by 62,256 persons more numerous than in 1881, while the Mussulman element showed a decline of 39,955, the total population having increased by 22,890.

Finances.—The budget for the financial year ending Sept. 13, 1900, made the receipts 5,274,118 drachmas, of which 1,524,320 drachmas were derived from direct taxation, 1,312,894 drachmas from taxes on consumption, 124,000 drachmas from monopolies, 802,671 drachmas from fees and dues, 137,848 drachmas from domains and public property, 125,748 drachmas from education receipts, 519,840 drachmas from other ordinary resources, and 726,797 drachmas advanced by the powers. The budget of expenditures was 5,274,118 drachmas, of which 729,300 drachmas were for justice, 1,230,960 drachmas for the interior, 1,382,240 drachmas for communications and public safety, 913,270 drachmas for public instruction and worship, and 1,018,348 drachmas for finance. There was a floating debt of 1,364,000 drachmas. The military force is a militia, service in which is obligatory on all Cretans. The powers promised to advance 4,000,000 drachmas, and of this Italy had paid 1,000,000 drachmas, Russia 352,500 drachmas, and France and Great Britain 12,500 drachmas each before Sept. 13, 1900. The financial condition of the island improved so greatly that it was found unnecessary to raise the loan of 4,000,000 drachmas authorized by the Boule in 1900. There was, however, no money for carrying out public works that the people demanded. The Boule neglected to appropriate funds to indemnify foreigners who had suffered losses during the civil war, although the powers had fixed the amount of the indemnities to be paid. In April, 1901, the Cretan Government received a fresh communication from the powers calling for immediate measures, and stating that the chamber had no right to discuss their decision. The money borrowed from the powers was being used for coinage purposes, and against this the English consul protested. A convention was signed in August by the Cretan Government and a delegate of the Ottoman Debt Commission by which the latter renounced all rights in the island in return for the payment of 1,500,000 drachmas and the concession of the salt monopoly for twenty years.

Commerce and Production.—The principal article of export is olive-oil. Minor exports are soap, carobs, raisins, wine, almonds, lemons, chestnuts, oranges, skins, cheese, animals, and cocoons. Many sheep and goats are kept. In 1899 the value of imports was 12,351,105 drachmas, and of exports 6,600,198 drachmas.

Political Affairs.—Successive generations of Christian Cretans have periodically risen in arms against Ottoman rule, proclaimed annexation to Greece, and fought valorously the Turkish nizams with the battle-cry of union or death. Members of every family found their death in these struggles, and thereby hallowed the hope of union so that no Cretan would be hardy enough to predict a different destiny for his island. The Greeks of Hellas, too, who have given their blood in this

cause, regard it as not less sacred. The Cretan insurrection of 1897 involved the Hellenes in the disastrous war with Turkey, which the Hellenes boldly undertook as soon as the six great powers occupied the principal towns of Crete, compelling both the Hellenes and the Turkish troops eventually to evacuate the island and the inhabitants to cease their sanguinary conflict. The powers imposed on Crete the present international *régime*, which was manifestly designed to be a stepping-stone to union, although they announced before proceeding to the intervention which saved Greece from the worst consequences of defeat that neither victor nor vanquished would be allowed to profit by the war. Cretan autonomy was recognized. A Greek prince was called to take the executive authority as High Commissioner of the intervening powers. Although Prince Georgios took office in the last days of 1898, it was not until the month of July, 1899, that the Government was handed over to him by the foreign officers who were in charge of the separate provinces. As a ruler he gave general satisfaction both to the Cretans and to the powers who gave him his commission. As a Greek prince he was bound to seize every opportunity to hasten annexation, and Greek and Cretan politicians, in view of the undecided and provisional status in which Crete was left, could not do otherwise than strive restlessly for the speedy realization of this object. The time, the manner, and the conditions of union depended on the decision of the powers; but indecision has always marked their course in the Eastern question, and their habit has been to allow a decision to be snatched from them by a *fait accompli*. This experience renders the Eastern peoples more headstrong and uneasy, and none of them are so restive and impatient as the Hellenes, who have seen their hopes of aggrandizement dashed by the unruly action of upstart nations, while their own ambitious enterprises have earned but small territorial advantages, and made them poor and on the whole weaker. The moment was not opportune for reopening the Cretan question when Prince Georgios, late in 1900, made the tour of the capitals of the protecting powers to press for union with Greece at the expiration of his commission in November, 1901. The early withdrawal of Germany and Austria from the joint control indicated sufficiently the difficulty of bringing about an agreement of the great powers. The very satisfactory nature of the Prince's rule showed that Crete could go on longer under the makeshift arrangement without detriment. After taking hold of the Government he manifested executive ability of no mean order, which he had developed as an officer of the Greek navy. He proceeded with the disarmament of the people, instituted courts that by the impartiality and justice of their decisions won respect for both the law and the judges, created a gendarmerie which under the training of Italian carabinieri curbed the crime and turbulence for which Cretans have always been notorious, established everywhere an efficient local administration, brought about better relations between the Cretans and the Mussulman population, and even attempted, though with indifferent success, to repatriate the Mussulmans who had fled from the island. The threat of retiring at the expiration of his mandate was the only lever with which Prince Georgios could expect to bring any pressure to bear upon the four powers, except his representation of the critical state of mind on the island, where the people were so excited that the new Boule shortly to be elected would be likely to proclaim union with Greece and bring about an uprising for its ac-

complishment. In St. Petersburg alone was he received with much show of sympathy, and in that capital he obtained a vague platonic approval of annexation at some more fitting moment. In London he met with a decided rebuff; in Rome, with a consequential negative in courteous form; in Paris, with a discouraging reply that indicated the real sentiments of Russia. As an alternative to immediate open annexation to the Hellenic Kingdom he suggested a veiled annexation through the substitution of Greek troops for the international garrison. The powers promised to take his proposals under advisement, and to give him a concerted reply. Accordingly a conference was held in Rome between the representatives of England, France, and Russia accredited to that capital and the Italian Minister of Foreign Affairs. Their formal decision was delivered to the Prince on Feb. 22, 1901, in the shape of a unanimous declaration of the four powers. In this document they stated that, while ready to examine with sympathy every proposition made to them with the object of ameliorating the condition of the island, they could not in the existing circumstances sanction any modification of the political situation in the sense indicated by the *exposé* of Prince Georgios. He was requested to discourage all manifestations in the island looking to a change in the *status quo*, as such manifestations could not in any degree be taken into consideration by the powers.

One of the most prominent Cretan politicians proposed the establishment of an autonomous principality. The Cretan Constitution, of which M. Venezelos, who brought forward this proposal in a meeting of the Prince's Council, was one of the chief framers, contemplated such a development. His colleague, M. Koundouros, in 1899 advocated a permanent principality hereditary in the male line of Prince Georgios. That would be the solution most pleasing to the Sultan, and Hellenes suspected that their own King and the Russian imperial family were not averse to seeing Prince Georgios the founder of a separate dynasty. That was not the idea of M. Venezelos, who intended to suggest a transitory autonomy, though probably with the view of preserving for Crete, when the island shall be merged eventually in the Hellenic Kingdom, the advantages of its superior economic and financial conditions by reserving a large measure of local self-government, as is the desire of all intelligent Cretans. The proposal of M. Venezelos, when made public by one of his enemies, brought upon his head a storm of denunciation, and the Prince dismissed from his Council the man so decried as a renegade and a traitor to the cause of Hellenism.

The elections for the Boule were held in April. Noisy demonstrations in favor of union with Greece were held everywhere, but this question furnished no issue, for there was none who would care to oppose the earliest possible union without reserve. Neither were there any opponents of the Prince, who was the standard-bearer of the holy cause. The Prince's ministers, however, were the objects of universal reprobation. They were charged with incompetence, favoritism, corruption, and extravagance. They were accused of wasting the public funds on useless objects, yet taking no steps to provide the public works for which the people clamored. The elections resulted in a complete victory for the Opposition party, which elected 53 members, besides 4 Mussulmans, while only 6 Ministerialists were returned, and these so dubious that after the Chamber met they went over to the Opposition, leaving the Prince's Council without one trusty supporter. The

friends of M. Venezelos and ex-President Spakianakis secured 30 seats. Prince Georgios appointed 10 members whose votes he could control.

The Chamber was convened on June 1. The ministers, who held office at the Prince's pleasure, showed no intention of resigning. The Prince in his opening speech promised that means would be provided for the institution of public works and the encouragement of agriculture. He transmitted the injunction of the powers, recommending the Cretans to rely on their sincere desire to take into account the legitimate wishes of the people and to abstain from premature and inopportune demonstrations. The Prince expressed the sentiment that the Cretans would appreciate the generous solicitude of the powers, and as soon as he had left the hall a resolution was offered expressing gratitude to the powers, and requesting them to crown their noble and philanthropic work by granting union with Greece. The newly elected members wished to remove the conception formed outside of Crete that they were less eager than their predecessors for union, or that they upheld the transitional scheme of M. Venezelos. The president of the Chamber put the resolution and declared it carried by the loud acclamations with which it was greeted, shutting off Deputies who rose to speak, including the Mussulmans, whose objections were afterward set down in writing and handed to the consuls. The Moslems were satisfied with the rule of Prince Georgios, but strongly opposed to union, mainly because they dreaded any change involving the departure of the international troops. There were only 33,000 left in Crete, and these began to make preparations to migrate when the Athenian and Cretan press confidently announced early in the year that the powers had decided in favor of union. The lot of these Moslems was not untroubled, notwithstanding the protection of the Prince and of the consuls, but it was tolerable, and this wealthy and industrious minority who once formed the ruling caste, now adapted themselves modestly to Christian supremacy, even refraining from electing their true proportion of Deputies, submitting to the arbitrary suppression of their electoral rights, and in many cases voting for Christians in order to keep on good terms with their neighbors, only resisting the pressure that was frequently exerted on them to induce them to change their religion.

Prince Georgios took it upon himself to present to the consuls the resolution of the Boule in favor of union with Greece, and the consuls, acting on instructions from their governments, returned the document into his hands. The relations between the High Commissioner and the representatives of the powers became strained in consequence of their refusal to accept the address of the Boule praying for union. On June 18 an identical declaration of the four guaranteeing powers was delivered to Prince Georgios, in which the powers declared their firm resolve to maintain the *status quo* established under their auspices, taking into consideration the general political situation, and that of Crete in particular, as well as the engagements they had contracted with the Sultan. They considered this situation to be best adapted to the interests of the country, its condition being far from normal, notwithstanding the progress already effected, and they appealed to the Prince to continue to exercise the mandate they had confided to him, and desired to know his intentions as soon as possible in view of the gravity of the interests at stake. In presenting this declaration the consuls conveyed the verbal explanations that any infringement of the rights of the Sultan might

endanger the peace of the East by subjecting Greece once more to the hostility of Turkey; that the present arrangement tended, in the opinion of the powers, to the material and moral progress of Crete owing to the exemption of the island from heavy taxation and to the simplicity and justice of its administration; and that any alteration introduced so soon might prove injurious to public tranquillity by awakening the slumbering fears of the Moslem population. The Prince replied in July, agreeing to accept a further mandate after the expiration of the three years for which he was originally appointed High Commissioner. In the address in reply to the Prince's speech, the Boule promised that the Cretan people would abstain from steps calculated to cause excitement or to disturb public order. The dissatisfaction of the Assembly with the Prince's Council was manifested as soon as M. Fournis asked for its approval of the budget for 1898. Documents referring to numerous objectionable acts were demanded for the information of committees charged with the investigation of the entire past administration. Whenever the Councilors appeared before the Assembly they had to listen to censures of their inefficiency, extravagance, and neglect of public works. When the Prince asked to have the right of appointing mayors entrusted to him instead of their being elected by the people, thereby removing a cause of popular excitement and dissension, the Boule passed the desired measure, though by a narrow majority. His desire for an unrestricted press censorship was not gratified. In the beginning of August the Councilor of Public Instruction resigned. A. Voreades was appointed to the place. On Sept. 10 the Prince relieved the Councilors of Justice and Finance of their functions, leaving only one member of the original Council still in office, the Councilor of the Interior.

CUBA, an island in the West Indies, formerly a Spanish colony, occupied by United States troops in December, 1898, and administered by a military Governor-General appointed by the President of the United States pending the establishment by the Cubans of a settled government capable of fulfilling international obligations. By the preliminaries of peace between Spain and the United States, signed on Aug. 12, 1898, confirmed by the definitive treaty of peace concluded at Paris on Dec. 10, 1898, Spain relinquished all sovereign rights over Cuba. The United States Government assumed the obligations for the protection of life and property for the time that the military occupation lasts, and the Governor-General, who is commander-in-chief of the United States forces in the island, controls every branch of the civil as well as of the military administration. The military governors appointed for Havana and each of the provinces report to him and act under his instructions. Brig.-Gen. Leonard Wood succeeded Major-Gen. John R. Brooke as Governor-General on Dec. 20, 1899. He is assisted in civil affairs by a Cabinet composed in the beginning of 1901 as follows: Agriculture, Commerce, and Industry, Perfecto Lacoste; Justice, Señor Berreiro; Public Instruction, Señor Varona.

The commander of the department of eastern Cuba, with headquarters at Santiago, was Col. Samuel M. Whitside; of the department of western Cuba, with headquarters at Quemados, Brig.-Gen. Fitzhugh Lee. The island is divided for administrative purposes into the provinces of Pinar del Rio, Havana, Matanzas, Santa Clara, Puerto Principe, and Santiago. The provinces are subdivided into 132 municipal districts, and these into nearly 1,200 barrios.

Area and Population.—The area of Cuba is estimated at 45,872 square miles. A census taken by the United States military authorities on Oct. 16, 1899, makes the population of the island at that date 1,572,797, compared with 1,631,687 at the census of 1887, 1,509,291 in 1877, 1,396,630 in 1861, 1,007,624 in 1841, 704,487 in 1827, 528,798 in 1817, 272,301 in 1792, and 172,620 in 1774. The number of colored inhabitants in 1899 was 553,443, or 32.1 per cent., compared with 528,798 in 1887, 485,897 in 1877, 603,046 in 1861, 589,333, being 58.5 per cent. of the population, in 1841, 393,435 in 1827, 314,983 in 1817, 118,741 in 1792, and 75,180, or 43.8 per cent. of the population, in 1774. The number of whites and others having no negro blood was 1,067,354 in 1899, compared with 1,102,889 in 1887, 1,023,394 in 1877, 793,484 in 1861, 418,291 in 1841, 311,051 in 1827, 257,380 in 1817, 153,559 in 1792, and 96,440 in 1774. The effect of the war of 1895-'98, in which two-thirds of the wealth of the island was destroyed, was to decrease the population about 12 per cent. Of the total population 89 per cent. were born in Cuba, 8 per cent. in Spain, and 3 per cent. in other countries. In the city of Havana 20 per cent. of the inhabitants were of Spanish birth. The total male population of voting age in 1899 was 417,993, of whom 290,905 were Cuban citizens, 76,669 were still in suspense, 9,500 claimed Spanish citizenship, and 40,919 were foreign and unknown citizens. Of these potential voters 70 per cent. were Cuban citizens, 2 per cent. were Spanish citizens, 18 per cent. had not elected between Cuban and Spanish citizenship, and 10 per cent. were citizens of other countries or of unknown citizenship. Among the Cuban citizens 59 per cent. were illiterate; among the Spanish, 12 per cent.; among those in suspense, 22 per cent.; among the foreigners, 65 per cent. Of the persons of foreign or unknown citizenship half were Chinese, etc., and most of the rest were of Spanish birth. Of the Cuban citizens only 220 whites and about as many colored were born outside of Cuba. Of those of Cuban birth 184,471 were white and 106,214 colored. The total foreign population was 172,535, of whom 129,240 were Spaniards, 14,863 Chinese, 12,953 African negroes, 6,444 Americans, 1,968 Spanish-Americans, 1,279 French, 731 British, 501 Italians, 284 Germans, and 4,272 from other countries. Of the foreigners 82 per cent. were males, and over one-third lived in Havana, the great majority being Spanish workmen attracted to Cuba by high wages. The African negroes were slaves smuggled into the island, most of them obtained from Arab slave-traders in the Congo region before the abolition of the slave-trade in 1884. The total number of native whites in 1899 was 910,299; blacks, 520,300; persons of mixed blood, 270,805; foreign whites, 142,198; Chinese, 14,857. In regard to citizenship, 1,296,367 were Cuban, 20,478 Spanish, 175,811 undecided, 79,526 foreign, and 616 unknown. The total population comprised 815,205 males and 757,592 females. Of the native white population, 447,372 were males and 462,926 females; of the foreign white population, 115,760 were males and 26,458 females; of the negroes, 111,898 were males and 122,740 females; of the mixed races, 125,500 were males and 145,305 females; of the Chinese, 14,694 were males and 163 females. Of the total population 1,108,709 persons were single, 246,351 married, and 131,787 living together by mutual consent. The number of widows was 85,112. Of the total population 47.1 per cent. lived in cities and towns of over 1,000 inhabitants. The population of Havana province was 424,304; of Matanzas, 202,444; of Pinar del Rio, 173,064;

of Puerto Principe, 88,234; of Santa Clara, 356,536; of Santiago, 327,715. The city of Havana had 235,981 inhabitants; Santiago de Cuba, 43,090; Matanzas city, 36,374; Cienfuegos, 30,038; Puerto Principe, 25,102; Cardenas, 21,940; Manzanillo, 14,464; Guanabacoa, 13,965; Santa Clara, 13,763; Sagua la Grande, 12,728; Sancti Spiritus, 12,696; Regla, 11,363; Trinidad, 11,120; Pinar del Rio, 8,880; San Antonio de los Baños, 8,178; Guines, 8,179. The aggregate population of these cities was 507,831; of other towns of over 1,000 inhabitants, 233,442; of country districts, 831,524. The density of population for the whole island was 35.7 to the square mile, ranging from 153 in Havana, which is as thickly populated as Connecticut, to 55 in Matanzas, 37 in Santa Clara, 35 in Pinar del Rio, 26 in Santiago, and 8 in Puerto Principe, which is about the same as in Texas. The Cubans are an industrious people, and they begin to work at an early age, 97 per cent. of the male population over fifteen years of age and 17 per cent. of the boys below that age being engaged in productive occupations. The women, especially the whites, seldom work outside of their own houses. The census shows that 292,331 males and 6,866 females are employed in agriculture, mining, and fishing, a total of 299,197, or 48.1 per cent. of the total number engaged in gainful occupations; 95,769 males and 46,167 females, 141,936 in all, were employed in personal and domestic service, being 22.8 per cent. of the total productive population; 93,034 persons, 14.9 per cent. of the total, comprising 82,012 males and 11,022 females, were employed in manufactures; 79,427, being 12.8 per cent. of the total, comprising 78,766 males and 661 females, were engaged in commerce and transportation; and 8,736, or 1.4 per cent. of the total, comprising 7,096 males and 1,640 females, followed the professions. Under the Spanish *régime* education was neglected. In 1861 the illiterates constituted 70 per cent. of the white and 95 per cent. of the colored population. In 1887, of 1,102,889 whites, 715,575, or 64 per cent., could not read, and among 528,798 colored the number was 463,782, or 87 per cent. Under the military administration of the United States great attention was given to education, and a new system of public schools was organized. In 1899 there were 1,004,884 persons, or 63.9 per cent. of the total population, unable to read, 33,003, or 2.1 per cent., able to read but not to write; 514,340, or 32.7 per cent., able to read and write, but without superior education; and 19,158, or 1.2 per cent., possessing a higher education. Of the white population 208,962 males, or 47.4 per cent., and 191,363 females, or 51.5 per cent., and of the colored 142,729 males, or 73.8 per cent., and 147,506 females, or 70.4 per cent., were unable to read.

Finances.—The revenue for the financial year 1899 was estimated before the Spanish evacuation at \$26,359,650 in silver, of which \$14,705,000 were derived from customs. The expenditure was estimated at \$26,356,731, of which \$12,574,709 were for the debt, \$5,574,708 for war, and \$2,645,150 for the executive authority. The revenue for the calendar year 1900 was \$16,938,925, of which \$15,697,361 were derived from customs, \$777,236 from internal taxes, \$318,923 from postal service, and \$144,705 from various sources. The expenditures were \$2,422,577 for the military department, including rural guards, \$2,333,709 for finance, \$1,738,821 for public works, \$1,345,911 for State and government, \$665,951 for justice, \$594,567 for public instruction, and \$199,998 for agriculture; total, \$9,301,534, besides which \$8,019,090 were given in supplementary grants to municipalities, making the total disbursements \$17,320,621. This leaves

a deficit of \$381,699, which was met from the surplus of the preceding year. For civil government, finance, justice, instruction, and public works the expenditures were a sixth heavier than the average under the Spanish Government, but the total was then a third greater, even including the extraordinary grants to municipalities, as the military expenses exceeded all the others except the debt, which consumed nearly half the revenue. The average rate of customs duties, which produce 90 per cent. of the revenue, is 21 per cent. on all merchandise and 22½ per cent. on dutiable merchandise, but is not leviable *ad valorem* except in the case of a few articles. On jerked beef the duty amounts to 31½ per cent.; on breadstuffs, 21 per cent.; on fresh and preserved meats, 19½ per cent.; on dairy-products, 15½ per cent.; on wines and spirits, 70½ per cent.; on beer, 25½ per cent.; on cotton goods, 30½ per cent.; on iron and steel, 15 per cent.; on machinery, 14 per cent.

By the Constitution adopted by the Cuban Convention on Feb. 21, 1901, all liability for Cuban bonds issued under Spanish rule was repudiated. These bonds, of which £23,328,000, paying 6 per cent., were issued prior to 1890 and between £9,000,000 and £10,000,000, paying 5 per cent., were guaranteed by the Spanish Government and secured on the Cuban revenues, and the interest is now paid by the Spanish Government. Havana has a debt of £1,918,640, and proposes to raise £3,000,000 for sewerage and other improvements.

Commerce and Production.—Cuba is mainly an agricultural country. Prior to the war of independence which began in 1895 there were 90,960 plantations, farms, orchards, and cattle-ranges, valued at \$200,000,000. In 1899 there were only 60,711 farms having an average size of 143 acres, the average area under cultivation being 13 acres. The devastation of the war has been in a large degree repaired by the industry of the people, especially in the sugar-growing provinces, where the planters and manufacturers have resuscitated the sugar business without extraneous aid except the rations that the United States Government distributed among the starving agricultural population. They have learned economical methods of production from their poverty, so that the output of the island promises in a few years to reach 1,500,000 tons per annum, enough to supply the entire needs of the United States. The crop of 1901 was 600,000 tons, twice that of 1900, and new plantings will bring the crop of 1902 up to 800,000 or 900,000 tons. Although the principal crop of the island, sugar does not cover more than 2,000,000 acres, not a fifth of the area that can be made suitable for its cultivation. The exports of sugar for the year ending July 31, 1900, were 263,835 tons.

Of the entire area of Cuba 30 per cent. was occupied by farms in 1899, but only 10 per cent. of the farms, or 3 per cent. of the surface of the island, was under cultivation. Of the cultivated area 40.7 per cent. was owned and tilled by whites, 44.2 per cent. was rented by whites, 2.8 per cent. was owned by colored cultivators, and 8.2 per cent. was rented to colored tenants. The large estates, exceeding 325 acres, are not numerous, being only 0.5 per cent. of the total number of holdings, yet they contain 27 per cent. of the total cultivated area, while farms of less than 8 acres, constituting 63.5 per cent. of the total number, contain only 15.5 per cent., farms between 8 and 16 acres, constituting 19.2 per cent. of the total number, contain 12.5 per cent., and 16.1 per cent. is in farms between 32 and 100 acres, 5.1 per cent. of the total number.

The tobacco crop in the province of Pinar del

Rio, where the plants are sheltered from destructive winds by the Sierra de los Organos, and where the soil has some peculiar quality or the ferments in the air some virtue not found elsewhere, is grown with great care, the plants, which cost about \$1.50 a thousand, being protected with pains from insects and weeds, cultivated frequently, kept free from suckers, and topped either high or low, in one case leaving 8 or 10, in the other 18 or 20 leaves, which are cut in pairs in January, dried during three or four weeks, sweated for some time, being sprayed with water to give them a darker color and perhaps a better flavor, and then sorted and packed for market in bales of 50 kilograms. A second crop is grown from suckers, which is suitable for fillers. The production of this Vuelta Abajo tobacco before the war was 260,000 bales a year, and the cost of production is \$47 a bale. The consumption in Havana was 140,000 bales, leaving 120,000 bales for export, mostly to Key West and New York. Of the partidos leaf, grown in Havana province, 70,000 bales were raised, of which 60,000 were exported to Key West. The average production of the Remedios tobacco of Santa Clara was 130,000 bales, and the export 100,000 bales. Santiago produced 100,000 bales of the coarse Gibara tobacco, of which 60,000 bales were used by the regies of Europe and the remainder smoked in the district. The average tobacco crop has been 560,000 bales of 110 pounds, of which 340,000 bales were exported, three-fourths of this to the United States, and the rest was manufactured into cigars and cigarettes in Havana or consumed in the country. The export of cigars increased from 91,812,000 in 1898, the year of the war, to 215,236,371 in 1899, of which about 38,000,000 went to the United States, 64,000,000 to Great Britain, 72,000,000 to Russia, Germany, Austria, and Italy, and 11,000,000 to Spain and France. The exports of cigarettes were 11,529,688; of leaf tobacco, 15,388,806 pounds from Havana and about 8,000,000 pounds from other ports. The value of cigar exports was about \$11,650,000; of leaf tobacco, \$8,800,000. The exports of leaf in 1900 were \$9,720,266, of which over \$8,000,000 went to the United States and nearly \$1,000,000 to Germany. The value of cigar exports was \$11,599,985, of which the United States took \$4,503,962, England \$3,964,063, Germany \$836,231. The cigarettes exported were \$305,889, Spain taking over a third.

The eastern parts of Cuba are adapted to the cultivation of coffee, an industry that once flourished, having been introduced by planters who emigrated from Santo Domingo. Hurricanes in 1843 and 1846, the competition of Brazil and Java, and the profits in the sugar industry caused a great decline, although the Cuban coffee was of as good a flavor and the trees as productive as could be found in the West Indies or South America. In 1894 there were 191 plantations, most of them in Santiago province. In 1900 the crop amounted to 130,000 bags of 134½ pounds, not nearly enough for home consumption. The cultivation of cacao in Cuba was rendered unproductive by the devastations of war and excessive taxes. Oranges were shipped to the United States until the development of orange cultivation in Florida and afterward in California. The Cuban oranges are delicate and juicy, and shaddockes, limes, lemons, pineapples, olives, coconuts, and other fruits grow in perfection. Bananas were shipped in large quantities to the United States before the last war from the plantations in Puerto Principe and Santiago.

Few countries are better suited to stock-raising

than Cuba, where grass is abundant at all seasons and running water is found everywhere in the grazing regions. The berries of the palm trees are an unfailing food supply for hogs. Once it was an important industry, but it was killed by the frequent revolutions and the tax of 10 per cent. that the Spanish Government imposed. Duties of \$85 a head on horses, \$10 on cows, \$8 on calves, and \$7 on hogs, and the seizure of stock on military requisitions, prevented recovery. The last war stripped Cuba of live-stock. In 1899 there were 400,000 cattle imported, and in 1900 there were 290,000. The island is being rapidly restocked with domestic animals. The cattle imports for breeding were 60,690 in 1899 and 85,225 in 1900, the greater part being oxen for draft and food. Of horses, asses, and mules about 10,000 were imported in 1899 and 17,000 in 1900. The Government in 1900 distributed for breeding purposes 762 cattle and 65 horses. The number of draft oxen at the census of October, 1899, was 164,948, nearly all of them having been imported since the beginning of the year. The number of range cattle was 211,702. Further importations and the natural increase of 20 per cent. per annum make the total number of cattle on Dec. 31, 1900, about 550,000. All owners are obliged by a recent law to register their cattle before the municipal authorities. There were 88,001 horses, 18,474 mules, 1,842 asses, 9,982 sheep, 18,564 goats, and 358,868 hogs on Oct. 16, 1899.

The forests, covering 13,000,000 acres, or nearly half the area of the island, are rich in timber and cabinet woods and in forest produce. The Government owns 1,250,000 acres of forests. The Cuban pine, which is the commonest forest tree in the interior, affords excellent lumber. The royal palm is the most useful of 30 species of palm growing on the island, its leaves forming the roof and its trunk providing the walls of the cabins of the poor. The more valuable woods are mahogany, ebony, granadilla, majuga, cedar, walnut, ceiba, lignum-vitæ, and oak. The forests are found mainly in the eastern parts of the island, in the provinces of Santiago and Puerto Principe. Iron ore, found at the base of the Sierra Maestra, between Guantanamo and Santiago de Cuba, is of the hematite variety, rich and easy to work. Until the industry was stopped by the war in 1895 about 3,000,000 tons had been exported, nearly all of it to the United States. Copper has not been mined since 1868, although a rich deposit was formerly worked at El Cobre in Santiago province, and discoveries have been made in other parts of the island. Asphaltum is found in various places, that taken from beds near Santa Clara being used to make gas for lighting the city. The plains of Puerto Principe are covered with parana and guinea grass, which affords excellent and abundant pasturage for cattle. In Santa Clara, Matanzas, and Havana they have been brought up to a high state of cultivation, and, owing to the richness of the soil, the equable temperature, and abundant rainfall, form one of the most productive regions of the earth. In the Vuelta Abajo, west of Havana, the unrivaled Cuban tobacco is raised. The total value of rural property, as assessed by the Spanish Government, was \$184,724,836, of a renting value of \$25,679,452, about 14 per cent. City property was valued at \$138,917,060, the rental at \$14,608,850, a little over 10 per cent. The war and antecedent causes left a mortgage indebtedness of 58 per cent. of the assessed value on rural and 79 per cent. on urban property.

The total value of imports in 1899 was \$64,343,000, and of exports \$43,880,820. The total im-

ports of merchandise in the year ending June 30, 1900, were valued at \$71,681,187, and exports at \$45,228,346. The trade with the principal countries, including gold and silver, was as follows:

COUNTRIES.	Imports.	Exports.
United States.....	\$34,347,008	\$36,912,629
Great Britain.....	11,955,153	4,354,817
Spain.....	11,387,658	1,006,546
France.....	4,130,416	2,929,278
Germany.....	2,629,654	2,297,545
Colombia.....	2,136,658	113,184
Porto Rico.....	1,611,237	81,580
Uruguay.....	1,308,647	100,166
Canada.....	44,154	234,642

The imports of agricultural implements were \$441,794, two-thirds of them from the United States and the rest mostly from England; imports of cattle were \$10,326,304, three-tenths from the United States, nearly the same from Mexico, and over a fifth from Colombia; imports of flour and wheat were \$2,154,702, practically the whole coming from the United States; imports of coffee were \$1,697,796, more than half from Porto Rico and the rest mostly brought from New York; imports of cotton manufactures were \$6,688,841, of which England supplied about 45 per cent., Spain 30 per cent., the United States 12 per cent., France 9 per cent.; imports of iron were \$1,015,256, a little over two-thirds from the United States and less than a third from Great Britain; imports of shoes were \$2,283,083, three-fourths from Great Britain and one-fifth from the United States; imports of engines were \$116,626, practically all American engines; imports of sugar and distilling machinery, nearly all of it American, \$252,340; imports of olive-oil were \$759,334, nearly all Spanish; imports of crude petroleum were \$759,334; imports of paints and colors were \$264,383, more of them from England than from the United States; imports of paper were \$779,517, from Spain, United States, Germany, and France; imports of meat, salted and pickled, were \$2,998,519, nearly half of it from the United States, and over two-fifths from Uruguay; imports of lard and tallow were \$2,542,158, practically all of it from the United States; imports of rice were \$3,414,388, the main part from England and some from German ports; imports of silk manufactures were \$490,307, over three-fifths from France; imports of potatoes, \$884,211, seven-tenths from the United States; imports of wines and cordials were \$2,354,187, practically all coming from Spain; imports of woolen knit goods, coming from England and Germany, were \$736,551. The exports of wood and manufactures thereof in 1900 were \$649,959, of which \$404,396 went to the United States; of rum, \$189,024, about \$100,000 going to England; of iron ore, nearly all of it to the United States, \$637,846; of cacao, mostly to the United States, \$281,211.

Navigation.—During 1899 the port of Havana was visited by 3,488 vessels, of 2,272,000 tons; Cienfuegos by 394 vessels, of 473,302 tons. In 1900 there were 3,276 vessels, of 2,078,126 tons, entered and 3,226, of 2,079,802 tons, cleared at Havana. The largest tonnage was American, after which came the Spanish, British, Cuban, Norwegian, German, and French.

Railroads, Posts, and Telegraphs.—There are 950 miles of railroad, of which 551 miles belong to English companies.

The telegraph lines have a total length of 2,300 miles. Telegraphs and telephones are the property of the Government, but the telephones are leased for a limited time to a company. Cables connect Havana with Santiago de Cuba and

Cienfuegos, with Jamaica, Porto Rico, and other West Indian islands and Panama, with Florida, and with Hayti, Venezuela, and Brazil.

The postal service has been reestablished and extended by the American military government. The expenses considerably exceed the income.

The Constitutional Convention.—By the joint resolution, declaring that the people of Cuba are and of right ought to be free and independent, adopted by the United States Congress on April 13, and approved by the President on April 20, 1898, the United States disclaimed any intention to exercise sovereignty, jurisdiction, or control over the island except for the pacification thereof, and asserted the determination to leave the government and control of the island to its people when that was accomplished. The President of the United States on July 25, 1900, directed that a call be issued for the election of members of a Constitutional Convention to frame a Constitution on a basis for a stable and independent government. The military Governor ordered such election to be held, and it was duly held on Sept. 15, 1900. The convention assembled at Havana on Nov. 5, 1900. The military Governor informed the delegates that it was their duty to frame and adopt a Constitution, which must be adequate to secure a stable, orderly, and free government, and in the second place to formulate the relations which in their opinion ought to exist between Cuba and the United States, after which the Government of the United States would doubtless take such action as would lead to a final and authoritative agreement between the people of the two countries to the promotion of their common interests.

The Constitution was completed and accepted by the convention on Feb. 11, and was signed on Feb. 21. A committee, composed of Diego Tamayo, Gonzalo de Quesada, Juan Gualberto Gomez, Enrique Villuendas, and Manuel Ramon Silva, was appointed after the practical completion of the Constitution to prepare a project concerning relations to the United States. Suggestions of what President McKinley thought those relations should be were communicated to the committee by the military Governor, but these were not heeded. The project submitted by the committee and adopted by the convention on Feb. 27 practically placed the United States on the same footing as all other foreign powers. It was declared that there should be no treaty with any power impairing the independence of Cuba or allowing any military or naval occupation of any part of the island. No naval stations were to be conceded to any foreign power, and Cuba should not serve as a base of war operations against the United States or any other foreign power. These were the demands of President McKinley as against third powers, not against the United States. He stipulated for the cession of naval stations to the United States, claimed the Isle of Pines as American territory on the ground that it was only administratively connected with Cuba by the Spanish Government, and demanded a financial supervision over the Cuban Government and control of its foreign policy wherever the interests of the United States or the independence of Cuba were involved. Other conditions that President McKinley formulated on behalf of the United States were accepted. The acts of the military government were declared to be valid. Cuba acknowledged all obligations imposed by the treaty of Paris. The basis of commercial relations with the United States was to be reciprocity with a tendency to free trade. Meanwhile the Platt amendment, embodying the President's

demands, was adopted by the United States Senate. The convention was made to understand that these demands of the United States must be conceded before the military government would cease, the American troops be withdrawn, and the independent Cuban Government inaugurated. The majority of the convention, having declared for complete independence of any control by the United States, was extremely reluctant to recede from the position taken. Business men and those whose property interests were largest desired to see the American control greater than was demanded by the United States Government. Immediate annexation was the desire of an important section of society, and a vast number looked for ultimate annexation. The preponderant sentiment of the convention and of the people was, however, in favor of the greatest possible independence for the present, whatever the subsequent destiny of Cuba may be. The leaders of the convention, while prepared eventually to make all necessary concessions, wished to temporize, and to secure such modifications in the American demands as could be secured. A commission was sent to Washington to discuss the subject with the American Government. Señor Capote and his fellow delegates were informed that the Platt amendment must be accepted without alteration. They asked to have the meaning of the amendment explained. Secretary Root told the delegates that the traditional policy of the United States toward Cuba followed for eighty years and the special responsibilities assumed by expelling Spain entail intervention in Cuba if it should be necessary either for self-defense or for the protection of Cuba, and the Platt amendment is intended to define this right and duty of intervention, which can not be used for the gain of the United States, but only for the protection of Cuba. The Monroe doctrine does not have international force, but by being recognized in the Cuban Constitution as applicable to Cuba obtains international force as regards Cuba, and gives the United States the legal right to intervene against any other power for the protection of Cuba, and will prevent the United States in case of such intervention from appearing aggressive to other nations. Coaling stations at Cape Maysi, Cape Antonio, and a point on the Gulf of Mexico will serve primarily in a political and a military sense to strengthen the position of the United States as protector of the independence of Cuba. There would be no interference with the local governments at these points. The obligations assumed by Cuba toward the United States could not reasonably deter other powers from recognizing the sovereignty of Cuba if it was recognized by the United States. As regards the Isle of Pines there was a doubt whether it belonged legally to the United States or to Cuba. Although the duty of the United States to fulfil the international obligations of Cuba was assumed in the treaty of Paris only for the period of military occupation, the United States has virtually made itself responsible before the world for the fulfilment of those obligations by the Cuban Government in devolving upon Cuba the duty of assuming them and carrying them out. The recognition by Cuba of the right of the United States to intervene will give the American Government a legal right against other nations.

When the commissioners returned to Havana the Cuban convention adopted the Platt amendment as explained by Secretary Root, their report being added as an appendix. Secretary Root caused the convention to be informed that his opinion could not be ingrafted on the Platt

amendment, which must be adopted in its exact terms. Maximo Gomez and other officers who were strongly opposed to the American demands in the beginning came to see in the end the need for the safety and stability of the Cuban Republic, and to regard them as reasonable from the American standpoint.

The Cuban Constitution is based on that of the United States, but the Government is centralized and laws are made by Congress. The federal system was discussed and finally rejected, a considerable degree of local self-government being guaranteed. The Constitution declares that the people of Cuba shall constitute a sovereign state under a republican form of government. The six former Spanish provinces were not constituted into states, but into departments having a large measure of self-government. The geographical limits are substantially the same as those of the provinces. Each department has a governor and an assembly elected by the people for three years. Municipal government is carried on by a mayor and a council elected by the people of the town, and towns are to have a reasonable amount of self-government. Provision is made for their raising taxes and borrowing money. Congress alone has power to regulate railroads and telegraphs. The judiciary shall be national, not departmental, and Congress shall frame or amend the civil and criminal laws. Universal suffrage was adopted after much discussion, some opposing the admission of Spaniards and foreigners to the franchise, others proposing an educational qualification calculated to shut out the ignorant colored element. Spaniards and foreigners residing in Cuba may become naturalized, and their children born in the island have the option of Cuban citizenship. Freedom of speech, of the press, and of religious worship is guaranteed. Prisoners can not be held longer than twenty-four hours without judicial authority. Congress consists of a Senate containing 6 members from each department, elected by municipalities for six years, one-third retiring every two years, and of a House of Representatives having 1 member to every 25,000 inhabitants, elected for four years by the people in each district. A member of Congress must be a Cuban by birth or naturalized eight years, and at least twenty-five years old. The President and Vice-President are elected for four years by popular suffrage through colleges of electors. Minority representation is provided for in a limited degree. In voting for President the voter is allowed to ballot for only two-thirds of the number of presidential electors allotted to his department. Justices of the Supreme Court are appointed for life by the President subject to the approval of the Senate. Civil law can be suspended only by Congress when it is in session, and when it is not in session by the President. The Senate is empowered to suspend the President temporarily when he is charged with crime or usurpation by the House of Representatives, and upon conviction to dismiss him from office. The Constitution can be amended by a two-thirds vote of both Houses of Congress, ratified by a constitutional assembly specially elected for the purpose. The convention debated for some time whether to declare Cuban citizens of alien birth eligible to the presidency or to restrict it to born Cubans. A personal rather than a broad constitutional question was involved, for those who took the latter view were enemies of Gen. Maximo Gomez, who, being a native of Santo Domingo, could not be a candidate under this restriction, which they failed to carry through.

A committee was appointed to draft an elect-

oral law. After three months of discussion the convention, on June 12, adopted the Platt amendment in the form in which it was presented, but by a majority of only 5 votes. The conditions thus made part of the Constitution of the Cuban republic are as follow: Cuba shall not make any foreign treaty which may tend toward placing the independence of the island or any portion thereof in jeopardy; no loans can be issued unless a surplus of revenue is available for the service of such obligations; the United States can intervene to preserve the independence of Cuba or to insure protection for life and property; the acts of the United States military administration in Cuba since 1898 are recognized as valid; proper hygienic precautions must be taken to protect public health on the island; the ownership of the Isle of Pines is left for future consideration; coal-mining stations shall be sold or leased to the United States in localities to be hereafter decided; and these conditions shall be embodied in the Cuban law of constitution.

A new tariff was framed placing higher duties on foodstuffs produced in the island. Other duties were made higher also, especially with a view to reciprocity arrangements with the United States.

Political parties were divided into two groups, one consisting of the Nationalist party, which wished to maintain a Cuban republic absolutely independent of the United States as well as of all other foreign powers, the other of those who were in favor of a closer union with and political dependence on the United States, including many who openly advocated annexation. Tomaso Estrada Palma, Gen. Maximo Gomez, and Bartolome Maso were proposed as presidential candidates. Estrada Palma was the candidate generally approved and the one favored by Gen. Gomez after an agreement on the future policy had been reached. Gen. Bartolome Maso, after hesitating a long time, came forward as a candidate, appealing especially to the old Autonomist party, the Spanish element, and the negroes. The electoral law first framed by the convention providing for separate elections at different dates was modified by advice of President Roosevelt so as to provide for only one election day in each year. The Maso ticket was withdrawn, official partiality being charged, and on Jan. 1, 1902, Estrada Palma and the Nationalist candidates for Congress were by a light vote elected. The transfer of sovereignty was expected to take place on May 1, 1902.

D

DELAWARE. (See under UNITED STATES.)

DENMARK, a kingdom in northern Europe. The legislative body, called the Rigsdag, consists of an upper house, the Landsting, of 66 members, 12 appointed for life by the King and 54 elected for eight years by indirect suffrage, and a popular assembly, the Folkething, containing 114 members, who are elected for three years by the direct vote of all male citizens thirty years of age excepting criminals, paupers, and servants living with their masters. The reigning King is Christian IX, born April 18, 1818. The heir apparent is Prince Frederick, born June 3, 1843. The Cabinet constituted on April 27, 1900, was composed as follows: President of the Council and Minister of Foreign Affairs, Hannibal Sehested; Minister of Justice and Minister for Iceland, Dr. A. H. F. C. Goos; Minister of Public Works, Baron C. F. A. Juul von Rysensteen; Minister of Agriculture, F. Friis; Minister of War, Major-Gen. F. Schnack; Minister of Finance, Dr. H. W. Schnarling; Minister of Marine, Capt. C. G. Midelboe; Minister of Ecclesiastical Affairs and Education, I. I. K. Bjerre; Minister of the Interior, L. Bramsen.

Area and Population.—Denmark has an area of 15,289 square miles. The population of the kingdom on Feb. 1, 1898, was estimated at 2,310,000, not including the dependencies. Copenhagen, the capital, had 333,835 inhabitants in 1895; or including suburbs, 408,330. The number of marriages in 1899 was 17,914; of births, 73,121; of deaths, 44,243; excess of births, 29,878. The emigration was 2,799. By the law of April, 1891, any Dane over sixty years of age unable to support himself or his family is entitled to a pension if he has not brought his poverty on himself by extravagance or by giving away his property, has never received relief from public charity, and has at no time been convicted of crime. The Government contributes half the pensions up to the limit of 2,500,000 kroner a year, and local authorities the remainder. The total expenditure in 1898 was 4,500,000 kroner. The number of persons receiving pensions was 56,656, comprising 12,971 male and 159 female heads of families, with 15,

897 dependents, 6,227 single men, and 21,402 single women.

Finances.—The revenue in 1900 was 72,561,487 kroner, and the expenditure 77,509,052 kroner. For the year ending March 31, 1901, the revenue was estimated at 72,820,278 kroner, and the expenditure at 71,464,566 kroner. The budget for 1902 makes the revenue 73,662,225 kroner, of which 863,056 are a balance from domain revenues, 3,677,907 kroner are interest on state assets, 10,816,700 are direct taxes, 51,117,400 kroner are indirect taxes, chiefly from customs and excise, 131,244 kroner are net receipts from posts and telegraphs, 1,090,000 kroner are the balance from lotteries, 622,534 kroner are separate revenues, and 5,343,384 kroner are revenue from employment of property and funding of debt. The budget estimate of expenditure for 1902 is 72,673,602 kroner, of which 1,203,200 kroner are the civil list and appanages, 332,232 kroner expenses of the Rigsdag and Council of State, 3,368,360 kroner pensions, 733,656 kroner appropriations for the Ministry of Foreign Affairs, 3,379,538 kroner for the Ministry of Agriculture, 7,189,448 kroner for the Ministry of the Interior, 5,023,865 kroner for the Ministry of Justice, 7,511,587 kroner for the Ministry of Public Worship and Instruction, 10,947,694 kroner for the Ministry of War, 7,867,305 kroner for the Ministry of Marine, 77,164 kroner for Iceland, 11,106,172 kroner extraordinary state expenditure, and 2,004,882 kroner for improvement of state property and reduction of debt.

The foreign debt on March 31, 1900, most of it paying 3 per cent., amounted to 138,512,250 kroner; the total debt, including internal loans, was 207,419,912 kroner. The reserve fund kept as a provision against a sudden emergency amounted on March 31, 1900, to 17,891,222 kroner. This and other invested funds make the sum of productive assets 76,325,868 kroner, apart from the railroads, valued at 237,025,353 kroner, and from the state domains. A loan of 45,000,000 kroner was authorized by the Folkething in 1901, 20,000,000 kroner for the conversion of old debt, and 25,000,000 kroner for railroads and for ad-

vances to rural laborers to enable them to purchase home lots. The loan in 3½-per-cent. non-redeemable stock was taken at 96 by French, German, and Danish bankers.

The Army.—Personal military service was made obligatory by the laws of July 25, 1880, and April 13, 1894. It begins at the age of twenty-two, and lasts eight years in the first and eight years in the second ban. Every regiment of infantry is reenforced annually by 480 recruits, who are instructed for one hundred and eighty days, at the end of which those who are made non-commissioned officers and 100 privates are retained for a further period of eight months. The term of active service for the cavalry is nineteen months; for the field artillery, twelve months; for the fortress artillery and the engineers, five months. The men not retained with the colors are called out for service twice for twenty-five days during the grand maneuvers. There are 5 brigades of 2 regiments of infantry, each regiment having 3 battalions with a war strength of 21 officers and 1,050 men; 5 regiments of 3 squadrons of cavalry, the squadron on a war footing numbering 5 officers and 150 men; 2 regiments of field-artillery, each containing 2 sections of 3 batteries, the battery of 4 officers and 200 men with 8 guns; 1 regiment of 3 battalions of fortress artillery; and 1 regiment of 9 companies of engineers. The infantry arm is the Krag-Jørgensen rifle of 8 millimeters bore, model of 1889. The peace strength of the army is 824 officers, 1,824 under-officers, and 7,121 annual recruits; the war effective, 1,448 officers and 60,134 men, with 128 guns.

The Navy.—The fleet in 1900 consisted of six armor-clads, the *Odin*, *Helgoland*, *Tordenskjold*, *Iver Hvitfeldt*, *Herluf Trolle*, and the unfinished *Olfert Fischer*; 3 monitors, the *Lindormen*, *Gorm*, and *Skjold*; 2 large cruisers, the *Fyen* and *Valkyrien*; 3 third-class cruisers; 8 gunboats; three school-ships; 2 torpedo vessels; and 13 first-class and 12 second-class torpedo-boats. The navy was manned by 277 officers, 81 sailors, 175 gunners, 218 mechanics, and 573 laborers. The largest vessels are the *Herluf Trolle* and the *Olfert Fischer*, sister ships of 4,476 tons, each carrying a pair of 26-ton guns in revolving turrets.

Commerce and Production.—About 40 per cent. of the total area of Denmark is pasture and meadow, 35 per cent. farm and garden, 5 per cent. forest, 3 per cent. peat bog, and 17 per cent. barren or occupied with roads and buildings. The production of wheat in 1899 was 1,285,000 hectoliters; of barley, 7,645,000 hectoliters; of oats, 13,060,000 hectoliters; of rye, 6,471,000 hectoliters; of mixed grain, 3,825,000 hectoliters; of potatoes, 6,399,000 hectoliters; of beets and turnips, 46,399,000 hectoliters. There were 449,264 horses, 1,743,440 cattle, 1,074,413 sheep, 31,803 goats, and 1,178,514 hogs in 1898. In that year 15,423 horses, 36,066 cattle, and 2,644 sheep were exported. The quantity of spirits distilled in 1899 was 7,911,234 gallons; of beer brewed, 22,388,870 gallons of excisable and 32,302,320 gallons of non-excisable; of beet-sugar manufactured, 39,204 tons; of oleomargarine manufactured, 16,210 tons. The value of the fish caught in 1898 was 6,120,448 kroner.

The value of imports in the general commerce of 1899 was 492,100,000 kroner, and of exports 364,500,000 kroner. In the special commerce the value of imports was 399,800,000 kroner, and of exports 270,100,000 kroner. The imports of food substances in the special commerce were 94,600,000 kroner in value, and exports 227,900,000 kroner; imports of articles of personal and domestic use were 76,300,000 kroner, and exports 4,600,000 kroner; imports of fuel were 34,200,000

kroner; imports of fodder, manures, and seeds were 68,200,000 kroner, and exports 2,300,000 kroner; imports of raw materials were 26,500,000 kroner, and exports 35,300,000 kroner. The general imports of groceries were 39,833,000 kroner, and exports 12,808,000 kroner, 917,000 kroner being domestic produce; imports of drugs were 7,446,000 kroner, and exports 3,722,000 kroner, 747,000 kroner being Danish produce; imports of textile goods were 55,221,000 kroner, and exports 7,255,000 kroner, of which 785,000 kroner were Danish manufactures; imports of metals and metal manufactures were 47,224,000 kroner, and exports 11,380,000 kroner, of which 3,405,000 kroner were of domestic manufacture; imports of wood and wood manufactures were 25,345,000 kroner, and exports 2,105,000 kroner, 561,000 kroner being of domestic production; imports of coal were 35,346,000 kroner, and exports 3,797,000 kroner, 5,000 kroner of Danish origin; imports of animals were 2,229,000 kroner, and exports 19,449,000 kroner, of which 19,445,000 kroner were Danish; imports of pork, butter, eggs, and lard were 38,342,000 kroner, and exports 212,632,000 kroner, of which 190,103,000 kroner were of Danish production; imports of cereals were 73,509,000 kroner, and exports 16,172,000 kroner, of which 9,148,000 kroner were domestic. The general commerce with different countries in 1899 is shown in the following table, giving values in kroner:

COUNTRIES.	Imports.	Exports.
Great Britain.....	100,519,000	216,415,000
Germany.....	144,253,000	66,673,000
Sweden and Norway.....	59,117,000	46,121,000
United States.....	78,146,000	6,852,000
Russia.....	36,780,000	16,209,000
France.....	11,147,000	1,403,000
Netherlands.....	10,696,000	472,000
Belgium.....	8,423,000	1,173,000
Danish colonies.....	3,459,000	3,713,000
Rest of America.....	5,697,000	2,000

Navigation.—During 1899 there were 31,627 vessels in foreign commerce, of 2,849,630 tons of cargo, entered and 32,147, of 815,738 tons of cargo, cleared at Danish ports. The number of coasting vessels entered was 35,660; cleared, 36,174.

The merchant navy, including colonial vessels, consisted on Jan. 1, 1900, of 3,305 sailing vessels, of 165,308 tons, and 539 steamers, of 258,241 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1900 was 1,711 miles, of which 1,108 miles were owned by the Government, having been built at a cost of 237,025,353 kroner.

The postal traffic in 1899 was 90,382,094 letters and postal cards and 83,499,502 samples, newspapers, etc.

The length of telegraph-lines on Dec. 31, 1899, was 3,068 miles, with 9,367 miles of wire. The number of internal paid messages in 1899 was 595,433; of international messages, 1,461,180; of official messages, 158,959. The telephone-lines had a length of 647 miles, with 4,154 miles of wire.

Change of Government.—The constitutional conflict in Denmark was brought to an end in 1901. In the Folkething, which was dissolved in the spring, the Sehested Cabinet had only 11 thoroughgoing supporters, and in the Landsting its majority was only 2. The elections for a new Folkething were held on April 3. For the first time the voting was by ballot, but this did not affect the result. The growth of the Socialist party in the towns added materially to the strength of the Opposition. The chief legislative question was the reform of taxation, for which

the Government had a scheme that was not exactly the same as the one favored by the majority of the Landsting. The first project introduced by the Government caused the revolt of 9 Agrarian Conservatives in the Landsting. A plan elaborated by a committee of the Folkething was more favorable to agricultural interests, and this impelled the Government to turn about completely and offer a project nearer than this to the desires of the element on which it relied for political support, though still not satisfactory to the Agrarians, who were encouraged by the reversal of the Government policy to enlarge their demands. The result of the elections was an overwhelming defeat for the Conservatives, and especially for the ministers, who were defeated in their own districts and had not more than 5 adherents left. The Radicals were increased from 63 to 75, and the Socialists from 12 to 14, while the Moderate Liberals were reduced from 21 to 15 and the Right from 16 to 8, and the 2 Independents were re-elected. Although the passions aroused by the determination of the Conservatives to retain office and of the King to keep them at the helm when they had a hopeless and dwindling minority in the popular chamber abated when the Government ceased to spend large sums arbitrarily on fortifications, the Opposition still held firmly to the principles of parliamentary government as they are understood in most countries. The King and his Conservative advisers always based their refusal to confide the reins of government to the Radicals on the possession of a Conservative majority in the Landsting. The upper chamber is elected by the people as well as the Folkething. It represents especially the highest taxpayers, and it has always claimed equal constitutional rights with the popular chamber elected by broad popular suffrage. The succession of the Agrarians to the Radicals, of the most aristocratic section of the Conservatives, left the Sehested ministry with a majority of only a single vote in the Landsting. The Conservative party has been dissolving ever since the *modus vivendi* was brought about between the two chambers by Estrup in 1894 after a deadlock of nine years, during which the Government carried out, in spite of the protests of the Folkething, the fortifications around Copenhagen that cost 40,000,000 kroner. After the elections the Minister of the Interior offered his resignation, and then M. Sehested proposed a change of ministers to the King, who consulted Radical politicians and found suitable candidates for two or three of the posts, but no acceptable Prime Minister. The Conservative ministers were therefore persuaded to hold on longer. On July 16 they resigned in a body to enable a ministry to be formed in time to prepare bills to be laid before the Rigsdag when it assembled early in October. A Radical Cabinet was constituted on July 23, as follows: Prime Minister and Minister of Foreign Affairs, Prof. Deuntzer; Minister of Justice, M. Alberti; Minister of Public Instruction, Christensen Stadil; Minister of Finance, C. Hage; Minister of Public Works, M. Hörup; Minister of Agriculture, O. Hansen; Minister of Marine, Admiral Jöhnke; Minister of War, Col. Madsen; Minister of the Interior, M. Sörensen. Prof. Deuntzer was not an active politician. M. Stadil was the acknowledged leader of the Radical party, and M. Alberti and M. Hage were prominent in its councils. M. Hörup was the leader of the extreme wing of the Radicals, who formed the alliance with the Socialists, and on that question lost his seat in the Rigsdag to M. Alberti in 1892; who had been a persistent assailant of the King; and who put forward the claim, abandoned

by the Radicals when they compromised with Estrup in 1894, that the authority of the Folkething was absolute, that of the Landsting and that of the Crown never superior or even concurrent. The Cabinet thus united all the sections of the great Radical party. As Minister of Agriculture, whose chief duty it is to preserve the high standard of rural produce exported to Great Britain to the amount of 200,000,000 kroner a year, a practical farmer of known ability was chosen. The Radicals of all the districts of the country sent deputations on Sept. 1 to thank the King for the change of policy and of system. The Socialists, who saw no reason to thank the King because he had been beaten after thirty years of struggle, rejoiced in the Radical triumph as a step toward their own ultimate triumph. They remained true to their electoral alliance with the Radicals in by-elections for the Landsting, and put forward demands for lessened military expenditures, social reforms, and universal suffrage in communal elections. This last proposal, which once had been a part of the Radical program, they urged with insistence because in the present drift of opinion it promised to make them the masters in the country districts as they were in Copenhagen, and bring their day of triumph when the farmers who had snatched the power from the aristocrats must hand it over to the laborers, and the Left be succeeded by the Social Democracy. The Conservatives accepted the transfer of power to the Radicals as a political necessity. Answering the great Radical deputation, which met with no greeting from the socialistic suburbs or the Conservative center of Copenhagen, the King said that in calling the new ministers to office in compliance with the wishes of a great majority of the Danish people he had perfect confidence in the ability and patriotism of the ministers, and relied on the people to give them the same support in their difficult task as responsible leaders of the Government that they had given them as leaders of the Opposition; thus the change would bring about peace and unity for the good and prosperity of the country, and usher in a period of fruitful labor. The program of the new ministry included loans for public works, the tax-reform bill, a judicial reform bill, some changes in the tariff, the sale of the Danish Antilles to the United States for 16,000,000 kroner, and self-rule for Iceland. The administration of justice must be conducted with the participation and under the eyes of the people, in public oral proceedings free from troublesome forms, and cases of crime and political offenses must be tried by jury so as to guarantee an administration of justice in harmony with the popular conscience. Military expenditure could not be immediately reduced, because the pay of non-commissioned officers must be increased and field-guns purchased. The Cabinet hoped to carry out the demand for universal suffrage. The Rigsdag was opened on Oct. 5, for the first time since 1884 by the King in person. Law reform, army reform, a just distribution of the burdens of taxation, improvement of industrial conditions, ecclesiastical reform, and measures for the development of communal affairs were promised in the speech from the Throne, but there was no mention of the sale of the West Indian islands.

Iceland.—Since Aug. 1, 1874, Iceland has had home rule. The legislative power is vested under the King in the Althing, composed of two chambers, the lower one containing 24 members elected by the people, the upper one having 12 members, of whom 6 are appointed by the King and 6 are chosen by the other chamber. The King is repre-

sented by the Governor-General, M. Stephensen. The area of Iceland is 40,450 square miles, but only 16,240 square miles are habitable. There were 70,927 inhabitants in 1890, of whom 33,689 were males and 37,238 were females. In 1895 the population was estimated at 73,449. The value of imports in 1899 was 2,403,000 kroner, and of exports 2,660,000 kroner. A bed of excellent coal was discovered at Nordfjord in 1901. For many years the Icelanders have been at variance with the Danish Government and divided among themselves on the question of self-government. According to the existing Constitution the Minister for Iceland is the Danish Minister of Justice, residing in Copenhagen. The Government bills are laid before the Althing by the Governor. In 1882 the Althing approved a scheme of autonomous government, according to which the King should appoint a viceroy to reside at Reykjavik and nominate a separate Icelandic Cabinet of 3 ministers. Bills embodying these demands were twice carried through the Althing, but did not receive the royal assent. The Radicals of Iceland have since been insistent in their demand for the fullest measure of home rule, while the Conservatives are content with the present system. In 1897 Dr. Valthyr Gudmundsson suggested a compromise which was adopted as a platform by a middle party. He proposed that the King should appoint a special minister for Iceland who must be an Icelandic or familiar with the Icelandic language, and during the session of the Althing reside in Reykjavik, between sessions taking his place in the Ministerial Council in Copenhagen. This plan received the approval of the Danish Government. The Althing rejected it when it was first proposed, and on a second occasion the votes were evenly divided. The election held in October, 1900, hung upon this issue. In the result Dr. Gudmundsson's party gained a majority over both the others, electing 16 candidates. Several of the members appointed by the King favored his project, and several of the members elected by the opposing parties gave their adhesion to it in the end. Dr. Gudmundsson's constitutional reform bill was passed by the Althing on Aug. 17, 1901. The Minister for Iceland can hold no other portfolio, must be present to explain the Government policy in the Althing, and will be responsible to the Althing for all governmental acts.

Colonies.—The territory free from ice in Greenland has an extent of 34,000 square miles. The population in 1890 was 10,516, comprising 5,064 males and 5,452 females. The trade is carried on by the Danish Government, which sends ships with supplies that bring away the products of the fisheries and chase. The imports in 1898 were 703,000 kroner in value, and exports 401,000 kroner; imports in 1899 were 631,000 kroner, and exports 325,000 kroner.

For an account of the Danish Antilles see **WEST INDIES**.

DISCIPLES OF CHRIST. The meetings of the General Christian Convention, representing the several missionary and benevolent societies of the Disciples of Christ, were held in Minneapolis, Minn., beginning with that of the Christian Woman's Board of Missions, Oct. 11. The total receipts of the board for the year had been \$148,602, of which \$95,147 constituted the general fund. Deducting various loans, etc., the actual receipts proper had been \$135,441. The society included 1,796 auxiliaries, with 37,299 members. A report on Young People's work recommended the continuance of the special method of awarding prizes, etc.; fixed "\$25,000—25,000 members," as a special object to be aimed at; ad-

vised the building of a boys' orphanage at Bayamon, Porto Rico, and the commencement of a building in India; suggested the preparation and publication of a history of the Young People's department; and offered prizes for the best missionary story and the best plan of Young People's work.

The American Christian Missionary Society and Home Board of Missions met Oct. 12. The annual report represented that the total receipts had been \$91,716, a gain of \$28,089 over the receipts of the previous year. The board had aided 225 missionaries, or 30 more than in any previous year, and had assisted 342 places and organized or reorganized 93 churches; while 3,660 members had been received by confession and baptism (6,912 members in all), and 28 church buildings had been erected. State boards in 39 States reported 415 missionaries employed, 1,359 churches and places helped, a total of 17,623 members received, 184 churches organized and reorganized, and \$2,147,685 collected on fields for local work, and \$182,215 for State missions. The reports of the State and National Boards of Home Missions showed 640 missionaries employed, 27,535 additions (total) to churches by missionary effort, 227 churches organized and reorganized, and \$213,921 raised for State and general home missions. A total of \$13,700 had been received on the annuity plan. Two funds of \$5,000 each had been received as named memorial funds—from Dr. Henry Gerould, late of Cleveland, Ohio, and George Bates, of Nebraska, in consideration of which the board agreed to keep a missionary preaching during all the year. Special attention was called to the work among the German population, for whom two churches had been organized in Cleveland, Ohio. City evangelization was carried on in many cities, of which 16 were named. Three mission stations were maintained in Porto Rico. A plan of missionary protracted meetings was suggested, to be held by ministers at some weak point away from their own church. In adjusting appropriations to missions a policy was followed intended to encourage and develop self-support.

The meeting of the Foreign Christian Missionary Society was its twenty-sixth. The receipts for the year had been \$171,898—an amount which, deducting the special gifts of \$15,149 contributed in 1900 for famine relief, was \$7,031 in excess of that received last year. But fewer churches had contributed, and they had given less, while the contributions of the Sunday-schools and Christian Endeavor Societies, and the bequests (\$14,611) had increased by \$12,000. Seven gifts to the Annuity fund amounted to \$22,742, or \$7,683 less than in 1900. Of the Annuity fund, \$12,300 had been put into real estate. The Christian Endeavor Societies had undertaken to support most of the boys in the orphanage in India. Five churches had been added to the Living Link of churches, which had given enough to support a missionary each. The churches in Canada, England, and Australia were cooperating in the work of the society. The reports from the mission fields related to work in famine relief, and mentioned a larger number of additions to the churches than in any previous year; progress of recovery from the disasters in China, where the property of the mission had been protected by the Viceroy of Nankin; uninterrupted progress in Japan; preaching, medical work, and the opening of a school at Bolengi, on the Congo, Africa; the churches in Sweden, Norway, and Denmark, where the society in Copenhagen had celebrated its twenty-fifth anniversary; movements toward self-support and the support of missions in England; unsatisfac-

tory conditions in Turkey, whence withdrawal was advised; preaching in English and Spanish Sunday-schools in Cuba; work in the Sandwich Islands; and the beginning of missions in the Philippine Islands, whither two missionaries had been sent, while two others were under appointment. Several new buildings were in course of erection in India, China, and Japan.

The Church Extension Board reported that its new receipts—that is, moneys not derived from interest on investments—amounted to \$55,274, and that its fund amounted to \$305,342. The receipts from interest amounted to \$10,572.

The Board of Ministerial Relief had received \$11,809 and expended \$9,903, and had a permanent fund of \$18,799. The educational institutions of the disciples include 12 colleges and universities, 3 Bible schools and Bible chairs, and 2 colored schools, all returning together 293 instructors,

and 5,248 students, 715 of whom were preparing for the ministry, besides a few smaller schools which had made no report. The general statistical report for the year gave the number of churches as 10,689; of ministers, 6,385; of communicants, 1,179,541; of Bible or Sunday-schools, 8,002, with a total enrolment of 774,450, showing gains for the year of 161 churches, 42 ministers, 30,459 communicants, and 28,815 members of Sunday-schools. The number of Christian Endeavor Societies is given as 5,277, or 276 more than in 1900. An estimate of the total amount raised by the churches during the year, including contributions through all the societies and the State boards, gives: For missionary purposes, \$611,220; for education and other benevolences, \$220,652; for local church work, \$5,401,000; total, from all sources, \$6,332,872—representing a gain of \$576,850 over the contributions of the previous year.

E

EAST AFRICA. The strip of coast over which the Sultan of Zanzibar formerly exercised sovereign rights was leased by him to Germany, Great Britain, and Italy, and these three powers subsequently made agreements dividing among themselves the Hinterland, extending to the borders of the Congo State and the equatorial provinces of Egypt. The coast strip recognized as belonging to the Sultan of Zanzibar extends from Cape Delgado to Kipini on the Osi, and has a breadth of 10 miles. The German East Africa Company acquired in 1888 the right to administer the part lying between the Rovuma and the Umba rivers. Subsequently the British East Africa Company leased for fifty years the coast from the Umba northward to Kipini. The Anglo-German convention of July 1, 1890, conceded to Great Britain a protectorate over Zanzibar and Pemba and a sphere of influence north of the Umba as far as the Juba river, including the sultanate of Vitu. On June 15 a British protectorate was declared over the interior to the limits of Uganda, and on June 30 of that year the British Government took over the administration of the territories of the British East Africa Company and placed them under the control of the consul-general at Zanzibar. The company had on July 31, 1893, abandoned the territory situated between the Tana and the Juba, which reverted to the Sultan of Zanzibar, since October, 1891, a vassal of Great Britain. By the Anglo-Italian agreement of 1891 the Benadir coast, from the Juba river northward, was recognized as within the Italian sphere, and on Aug. 26, 1892, the Sultan of Zanzibar ceded to Italy the stations of Brava, Merka, Mogadoscio, and Warsheikh. Previous to the establishment of the German protectorate France and Great Britain exercised a joint control over Zanzibar for the suppression of the slave-trade by sea, patrolling the neighboring waters with their cruisers and taking the slave-dhows that they captured as prizes into the port of Zanzibar. The Sultan of Zanzibar with his Askaris kept the caravan routes open for travel and trade as far as the great lakes through stations now embraced in the German protectorate.

German East Africa.—The German sphere has an estimated area of 384,000 square miles, with a population of 6,000,000 to 8,000,000. German planters have coconut groves near the coast and raise coffee, vanilla, tobacco, rubber, and cacao. A railroad from Tanga to Karagwe and Nomba has been begun, and 55 miles were opened

on July 1, 1901. The Governor, residing at Dar-es-Salam, is Major-Gen. Liebert. The expenditure in 1899 was 9,708,000 marks, of which 3,008,000 marks were raised locally and 6,700,000 marks were contributed by the Imperial Government. The value of the imports in 1899 was 10,822,586 marks. Imports of cotton stuffs were 4,824,912 marks, and the next largest imports were hardware, groceries, rice, oil, kerosene, and liquors. The value of exports was 3,937,150 marks, the principal articles being rubber for 1,337,181 marks, ivory and horns for 1,097,359 marks, oil-nuts for 289,994 marks, copal and gum for 277,442 marks, and live animals for 137,885 marks. A syndicate of German bankers has agreed to raise 22,000,000 marks for the construction of a railroad from Dar-es-Salam to Mrogoro, 140 miles, the Government guaranteeing 3 per cent. interest, granting land and mining concessions for 62 miles on either side, and the privilege of extending the railroad to the lakes, and the company undertaking to complete the railroad in five years and to turn it over to the Government at the end of ninety-three years. Traffic by this route, amounting to 600 tons a year, is now carried on by porters, who bear loads of 50 kilograms. The Uganda Railroad will take away this business and the trade of the German ports unless the Germans themselves build a railroad. The number of Europeans in German East Africa at the beginning of 1901 was 1,078. There are 32 plantations of coffee, coconut-palms, and hemp in the interior and in the highlands of Usambara. Rubber, ramie, and various tropical products have been tried with success, and experiments are being made with teak, sugar-cane, agave, vanilla, and the breadfruit-tree. Tobacco has proved a failure. About 75 tons of Mocha coffee were exported in 1900. Liberian coffee does not pay for transportation. East Indians grow rice and cotton in the coast district. They have their passage paid and are provided with land and implements. There are 3,000 British Indians in the country. Of the Europeans 821 are Germans, 385 of them being officials, 227 missionaries, and 110 merchants. The natives reaped good crops in 1900, and have entirely recovered from the famine of 1898. On Kilimanjaro and in other districts are large herds of cattle, and where the herds are small the Government encourages the chiefs to breed more. There are excellent wagon roads to the lakes. Kilwakisiwani, once a famous and populous seaport known by the Portuguese name of Quiloa,

having a deep landlocked harbor, will be the maritime terminus of a railroad to Lake Nyasa. Dar-es-Salam, the capital of German East Africa, has a safe and spacious harbor, and is a clean and well-built town with a population of 300 Europeans and 21,000 natives. The boundary between the German possessions and the British sphere between Lake Nyasa and Lake Tanganyika has been fixed by a mixed commission under the agreement of July 1, 1890. Beginning on Lake Nyasa at the mouth of the Songwe, it follows this river up to its junction with the Kalandu, then runs across to the southeast source of the Samfue, follows this stream to its junction with the Kalambo river, which constitutes the boundary to its mouth in Lake Tanganyika. This delimitation was embodied in an agreement signed at Berlin on Feb. 23, 1901.

British East Africa.—The part of East Africa that was first brought under British dominion is the *British East Africa Protectorate*, containing the strip of 10 miles of coast land leased from the Sultan of Zanzibar by the British East Africa Company and the Hinterland as far as the Victoria Nyanza. The area is about 250,000 square miles, and the population is estimated at 2,500,000. There are about 450 Europeans and Eurasians and 25,000 East Indians. The East Africa Company handed over the administration to the Imperial Government on June 30, 1895. The Imperial Commissioner is Sir C. N. E. Eliot, the consul-general, residing at Zanzibar, under whom the British consul at Mombasa, Col. Trevor Ternan, has charge of the local administration. The revenue was £43,841 in 1898, increasing to £69,400 in 1899, and in 1900 it was estimated at £77,500. The imports in 1900 were 6,642,000 rupees in value; exports, 1,825,000 rupees. The tonnage entered in 1900 was 332,882. The chief exports are ivory, rubber, cattle, goats, grain, copal, and hides. Cotton cloth is imported from both England and India. Other imports are provisions, brass, and beads. The trade is carried on by Banyan merchants with connections in Bombay. Mombasa, the capital and chief port, had 27,000 inhabitants in 1900. The Uganda Railroad starts there from Kilindini harbor, and telegraphs connect the town with Uganda and Lamu, and a cable with Zanzibar. The rails of the Uganda Railroad were laid to within 65 miles of Lake Victoria by August, 1901, and before April 1, 1902, the whole line was expected to be completed. The total length is 583 miles, and 483 miles were finished on April 1, 1901. The cost is now estimated at £5,206,000. Towns have sprung up at the stations, but the natives do not use the railroad. Indian merchants, coolies, porters, troops, and officials are the passengers, and the freight, except a little ivory and country produce, consists of public stores for the Uganda Protectorate and articles for the consumption of the staff and laborers on the railroad. The people of the country have no wants to supply, and the hope of future traffic lies in the immigration of East Indians to cultivate the fertile soil, or of Europeans into the high regions on the last 300 miles of the railroad, where domestic animals seem to thrive. A little rubber and coffee may be exported by the numerous populations living on the borders of the lake. The receipts in the first year are expected to be 1,500,000 rupees, only half the expenses, and then to decline gradually to nearly nothing in 1910; after that a small revenue may be expected. The value of the railroad is military. Without it England could not hold the country around the head waters of the Nile, or deal with the slave-trade, which she is pledged to suppress in her

sphere of influence. As soon as the frontier between the British East Africa Protectorate and Abyssinia is determined and the relations between the Uganda Protectorate and the provinces of the upper Nile are adjusted there will be an amalgamation of the two protectorates into a single administration which the Colonial Office will control, instead of the Foreign Office, as at present. The estimate voted by Parliament for British East Africa in 1901 was £87,000. A supplementary vote of £140,000 was required to provide for the punitive expedition against the Somalis. Two little wars were going on simultaneously in the early part of 1901, one against the Ogaden Somalis in Somaliland (see ABYSSINIA), and one against the branch of that tribe on the Juba river. A district officer named Jenner was murdered in Jubaland in November, 1900, because he had fined the Ogaden Sultan, Ahmed Murgan, and imprisoned another chief. The Ogadens to the number of 6,000 fighting men rose in revolt. Col. Ternan organized at Kismayu a punitive expedition consisting of the Aden camel-corps, 2 mountain guns, 4 companies of Bombay infantry, 5 companies of East Africa rifles, and 2 companies of armed porters. Starting from Kismayu on Jan. 24, 1901, the column entered Afmadu on Feb. 5. The Sultan gave himself up on Feb. 7. His brother and other chiefs, who were the real culprits, fled to the north, and a flying column was sent after them on Feb. 12. Marching 57 miles in four days, the troops found the enemy, who attacked and broke through one corner of the square. Col. Maitland and 25 men were killed and 40 wounded, and the troops, weakened by heat and lack of water, retreated to Afmadu, warding off several attacks and inflicting losses on the tribesmen, from first to last estimated at 200. Other fortified posts were established to prevent the Ogadens from crossing the Juba into Italian territory and from bringing their herds to water. Some Ogaden Somalis broke into Tanaland, raiding villages and looting cattle until they were stopped by Capt. A. S. Rogers with a local levy assisted by a Soudanese company of the East Africa rifles. The garrisons in Jubaland, except those at Yonte and Kismayu, were withdrawn in May, and the Indian troops were sent back to India. All the officers were ill and many deaths from sunstroke occurred. A fine was imposed on the Ogaden Somalis, but it was not paid. The Sultan was carried off as a prisoner. An advance made up the Juba was checked by the Ogadens. The operations in Somaliland ceased in August, when the Abyssinian forces were recalled. A surveying expedition sent from Omdurman to Lake Rudolf mapped the country, part of it swamp and part desert, between Nasser and the northern extremity of the lake, and came out at Mombasa in the beginning of September, three-quarters of the Soudanese escort having perished.

The protectorate of *Uganda* includes the native kingdom of that name and all the other countries beyond the Victoria Nyanza and Lake Rudolf as far as the British sphere extends. The old equatorial province of Egypt as far as Lado, or Gondokoro, is included in the British sphere, which has an extent of about 140,000 square miles. Uganda proper and the neighboring countries now subject to British administration and military control have a population of about 4,000,000, a third of whom belong to the half-civilized Baganda nation. The Kabaka, or King of the Baganda, is Daudi Chua, a minor, whose authority is deputed to three regents assisted by a Lukiko, or native assembly. In the ten other prov-

inces the native chiefs rule over their own people, subject to European control. The number of Europeans in the protectorate in 1900 was 300. There are 4,000 troops under British officers, including a contingent of Indian soldiers enlisted for three years. The local revenue for 1901, derived mainly from a hut tax and a tax on arms, was estimated at £40,000. The British special commissioner and commander-in-chief in 1901 was Sir Harry H. Johnston, in whose absence the administration is managed by the deputy commissioner, F. J. Jackson. The soil is very fertile and the country is rich in iron, which is extracted and wrought by native processes. Copper is mined in the central part, and gold is found. The chief products for export are ivory, woods, rubber, and cattle. German and British merchants are being supplanted by East Indians. Sir Harry Johnston, whose connection with Uganda ceased in 1901, was sent out as special commissioner after the capture of Kabarega and Mwanga. He inaugurated reforms in the administration and devised plans for increasing the local revenue, which he expects before many years to be sufficient to provide for the government, protection, and development of the country. Since the establishment of the protectorate in 1894 the British Government has spent, besides nearly £5,000,000 on the railroad, £1,394,000 for military and administrative purposes in Uganda. Uganda was taken by the British for political reasons, chiefly to guard the sources of the Nile, which engineers could divert so as to deprive Egypt of the irrigating flood on which its fertility depends. East Africa is, moreover, an outlet for Indian commerce and emigration. The most promising part of Uganda is the salubrious eastern part, a region of about 12,000 square miles, to a great extent uninhabited by any native race, covered with forest, well watered and fertile, having an altitude of over 6,000 feet, perfectly adapted for European colonization. The valuable rubber-vine and rubber producing trees thrive here. In various parts of the protectorate coffee, indigo, cotton, sugar, and many fiber plants are grown, but cultivation brings little profit. Cattle and sheep may be reared at a profit. Iron, copper, and coal exist. Wild animals abound, from the elephant down. Experiments are being made in the domestication of zebras and wild asses, in ostrich-farming and in training young elephants that are brought in by the Baganda. The hut and gun tax imposed by Sir Harry Johnston produced in the first year £34,000, and is expected to produce before long an annual revenue of £165,000. The rest of the revenue necessary for the administration will be raised from Europeans in the form of customs duties, licenses, etc. The products of Government forests, salt-mines, royalties on minerals, and sale and rent of lands will yield a surplus from which the cost of the Uganda Railroad may be refunded to the British Government. The armed force of the protectorate will consist of a nucleus of 400 Indian troops and of native recruits raised in the Nile provinces and in Uganda. An expedition led by Lieut.-Col. J. Evatt, consisting of 105 Indian and 268 local troops, marched in the autumn of 1900 against the warlike Nandi tribe in the mountainous forest region east of the Victoria Nyanza. These people have always resented the entrance of strangers into their country, and when the railroad survey was first made the caravan route which avoided Nandi was followed. The Government decided on a shorter route direct to the shore of the lake. The Nandis attacked the surveying parties, and in 1897 Col. Ternan conducted a punitive expedition against them, but had to leave

the task unfinished when the Soudanese mutiny began. After that the Nandis harassed caravans, destroyed the telegraph, and grew so bold as to attack military posts and ambush detachments of the Uganda rifles. The punitive expedition of Lieut.-Col. Evatt was unable to accomplish anything in the difficult Nandi country after arriving there. Patrols were ambuscaded, and one detachment of 19 men was wiped out. The troops were practically shut up in the forts until 300 Masai spearmen came to their aid and quickly turned the fortunes of war. Columns of about 40 rifles and 100 Masais raided the country in all directions, capturing cattle and inflicting heavy losses on the Nandis. The fighting was done by the Masais. The main body meanwhile moved slowly through the country from west to east after the cave strongholds on the edge of the Nandi escarpment had been captured. The British were reinforced by 296 Uganda troops. After the zariha of their medicine-men was taken by Col. Evatt on Oct. 13, 1900, the Nandis made a final determined attack on the British camp which was almost successful, and was only repelled with a loss of 11 killed and 19 wounded, the Nandi tribes sued for peace, having lost most of their live-stock, which constitutes their property. Peace was not finally concluded until February, 1901, when Sir Harry Johnston held a palaver with the Nandi chiefs in their forest. The route of the railroad does not traverse the mountainous region which is the Nandi country proper. It passes by their mountains through a land that had been rendered uninhabitable by their incessant raids. The Nandis and other self-governing tribes outside of the limits of British administration do not pay the hut tax, which is collected from the semicivilized agricultural Bantu tribes who inhabit the country between the lakes, from the Baganda and the kindred races of the Unyoro, Toru, Ankole, and Busoga. These are still ruled by their own chiefs, and the British do not interfere except to protect the natives from oppression. An armed steamboat was launched on the Victoria Nyanza late in 1900. Sir Harry Johnston reduced military expenditures considerably, and at the same time increased the armed force by more than 1,000 men—not soldiers, but armed police. Mwanga and Kabarega, the captive deposed Kings of Uganda and Unyoro, were deported in October, 1901, to the Seychelles Islands.

The sultanate of Zanzibar, reduced to the islands of Zanzibar and Pemba, was made a British protectorate in 1891. The Sultan is Seyyid Hamud bin Mohammed bin Said, born in 1856, who was placed on the throne by the British after the death of Hamed bin Thwain, in 1896. The British agent and consul-general is Sir C. N. E. Eliot.

The area of the island of Zanzibar is 640 square miles, with about 150,000 inhabitants; that of Pemba is 380 square miles, with 50,000. The population includes 50 English, 50 Germans, some Greeks, Americans, French, Italians, and Roumanians, and about 7,000 East Indians, most of them traders, some of them constituting the firms that carry on the main commercial business of East Africa. The town of Zanzibar has 30,000 inhabitants. The military force, under Col. Raikes, consists of 900 soldiers and police. The revenue, derived from customs duties and taxes on cloves and other produce, is expended by the British officials, except the sum of 120,000 rupees assigned for the maintenance of the Sultan and his household. The value of imports in 1899 was £1,596,606, and of exports £1,513,407, including the trade of the port of Zanzibar with the rest of the

Sultan's dominions. The imports of cloves were £186,483 in value, and exports £197,232; imports of rice £193,497, and exports £141,631; imports of textile fabrics £367,850, and exports £345,910; imports of ivory £113,204, and exports £127,312; imports of coal £53,147; imports of copra £30,596, and exports £69,736; imports of groceries £59,562; imports of rubber £40,517, and exports £41,298. The trade was distributed as shown in the following table:

COUNTRIES.	Imports.	Exports.
British India.....	£491,548	£129,896
German East Africa.....	173,172	457,238
Zanzibar and Pemba.....	240,658	144,845
Great Britain.....	146,143	116,964
British East Africa.....	86,098	190,641
United States.....	101,014	84,464
Germany.....	95,893	65,766
France.....	24,178	80,591
Belgium.....	56,380	2,724

The tonnage entered at the port of Zanzibar during 1899 was 324,961 tons.

Any slave can get his liberty on application. The great majority of the slaves are unwilling to avail themselves of their legal right. Some who are energetic and enterprising and have learned trades seek emancipation, and a few who have quarreled with their masters or whose masters have died. The freedmen have to use all their wits and energies to obtain the requirements of life, and often they are in debt. They are shunned by their fellows, who consider it a disgraceful thing to change their estate. The slave has the use of as much of his owner's land as he desires, and the product is his own. The master frequently supplies the material for building the slave's house, and in want or in sickness the slave goes to him for food and medicine. Slaves share the feasts and pleasures of the master's household. All they give in return for the life of comparative ease and comfort and complete freedom from care and responsibility is the nominal three days of work weekly, which in practise amounts to not more than fifteen hours of honest work. The freed slave becomes an outcast as far as his past associations are concerned. His former owner and his late companions will not recognize him. He has no home, no friends or companions, and may die of sickness or starvation with none to lend a helping hand. Although the emancipated slaves are ostracized and the process of emancipation goes on very slowly, the right to obtain freedom is gradually elevating the character and improving the lot of the slaves themselves, who are less abject and cringing. The freed slaves show much greater energy and self-reliance than those still in bondage. Of the 100,000 slaves in Zanzibar and Pemba in 1897, when the emancipation law went into force, only 53,000 remained in 1901, an epidemic of smallpox having carried off 20,000, and 15,000 having disappeared or died from ordinary causes, while 12,000 have obtained emancipation. In 1899 the number of slaves who applied for and obtained freedom was 3,757 in both islands, and in 1900 there were 1,126 freed in Zanzibar and 559 in Pemba. The average amount of compensation paid was 40 rupees. Very few slaves are smuggled out. The Sultan cooperates with the English in suppressing traffic in slaves. He even had his own cousin imprisoned for slave-dealing. Many owners have, in spite of the vigilance of the cruisers, deported slaves from Pemba to Muscat. Sir Lloyd Mathews, the Prime Minister of Zanzibar, proposed to procure native labor for Zanzibar and Pemba from British East Africa and

Uganda on contracts for three years or longer, making the merchants who imported and supplied gangs responsible for their wages and support. This scheme was disallowed by the British Government.

British Somaliland comprises the coast district from Lahadu to Bander Ziyada. It became a British protectorate in 1894, having formerly belonged to Egypt. The area is about 68,000 square miles. There are British officers at Berbera, with 30,000 inhabitants; at Zeyla, with 15,000; and at Bulhar, with 12,000. The revenue in 1900 was 385,884 rupees; expenditure, 340,092 rupees. The imports were 3,315,651 rupees at Berbera and Bulhar, and 3,471,904 rupees at Zeyla; exports, 2,871,962 rupees at Berbera and Bulhar, and 3,012,712 rupees at Zeyla. Rice, cotton goods, and dates are imported, and hides and skins, ostrich-feathers, gum, cattle, and sheep are exported. The consul-general, Lieut.-Col. J. Hayes Sadler, is at the head of the British administration.

Italian Somaliland.—The sultanate of Obbia was declared an Italian protectorate in 1889 by an arrangement with its ruler, and the Mijertain Sultan also accepted Italian protection for a part of his dominions and agreed not to conclude any treaty with another power regarding the rest. In 1892 the Sultan of Zanzibar ceded to Italy the Somali coast to a distance of 180 miles inland, including the ports of Brava, Merka, Mogadoseio, and Warsheik. The boundary between British East Africa and the Italian sphere by the agreements of March 24, 1891, and May 5, 1894, is the Juba river from its mouth up to six degrees of north latitude, that parallel eastward to thirty-five degrees of east longitude, and that meridian northward to the Blue Nile. The area of the Italian sphere is about 100,000 square miles, with a population estimated at 400,000. The Sultan of the Mijertain Somalis having assumed a hostile attitude and engaged in the contraband trade in arms, a naval expedition under the direction of the Italian consul-general at Zanzibar bombarded and captured his residence and took a large quantity of arms and ammunition in April, 1901. His son was taken prisoner. He himself fled into the interior with a small number of followers, where he was kept with short supplies until he made his submission in July, signing a convention which acknowledges the Italian protectorate and granting various concessions. An agreement was made with France for the delimitation of French and Italian territories on the Somali coast by a mixed commission which met at Raheita in February, 1901.

French Somaliland.—The French Somali Coast Protectorate, with the colony of Obok, extending from Cape Dumeira to Cape Gumarle, has an area of 45,000 square miles and about 200,000 inhabitants. Jiboutil, the capital, has 15,000 inhabitants, including 2,500 Europeans. The local revenue in 1900 was 581,000 francs; the expenditure of France, 337,500 francs. The exports are coffee, wax, and ivory. A railroad is building from Jiboutil to Harar. The Bay of Adulis was ceded to France by the King of Tigre about the same time that Obok was acquired under the second empire, but it has never been occupied. Obok was first occupied in 1881, and a protectorate was extended over Sagallo, Tajura, and Ambado in the following years. The port of Jiboutil was founded in 1888. The natives are Danakils and Gallas. By agreement with Great Britain the town and district of Harar, where formerly an Egyptian garrison was maintained, can not be annexed by either France or Great Britain, the territory having been conceded to Abyssinia

by the latter after the Egyptians were driven out. The railroad, which will be the outlet of the trade of southern Abyssinia, was completed in the beginning of 1901 for 60 miles. The total length is 186 miles.

ECUADOR, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 32 members, 2 from each province, elected for four years, and a House of Representatives, 41 in number, elected for two years by adult male citizens who can read and write. The President is elected for four years by direct popular suffrage, and the Vice-President, who is called upon to take the place of the President in certain contingencies, is elected for the same term at the succeeding biennial election. The President elected for the term ending Aug. 31, 1901, was Gen. Eloy Alfaro; the Vice-President is Freile Zaldumbide. The Cabinet at the beginning of 1901 was composed as follows: Minister of the Interior, Police, Public Works, Agriculture, and Public Charity, A. Moncayo; Minister of Foreign Affairs and Justice, José Peralta; Minister of War and Marine, Gen. Nicolo Arellano; Minister of Finance, T. Gagliardo. Gen. Plaza was elected to the presidency, and Gen. Alfaro peacefully handed over the Government at the close of his term.

Area and Population.—The area of the republic is about 120,000 square miles, including the Galapagos Islands, which have an area of 2,950 square miles. The population is estimated at 1,271,861, of whom about 100,000 are whites, 300,000 of mixed blood, and the rest Indians. Quito, the capital, has about 80,000 inhabitants; Guayaquil, the seaport, has 50,000.

Finances.—The revenue for 1900 was estimated at 8,268,100 sucres, of which 6,476,100 sucres came from customs and 610,000 sucres from salt, rum, tobacco, and powder. The estimate of expenditure was 8,967,783 sucres, of which 2,129,705 sucres were for financial administration, 2,045,949 sucres for public works, 1,729,412 sucres for the army and navy, and 1,071,713 sucres for public instruction. The military force numbers 3,341 men of all ranks. The naval force consists of a torpedo-launch and a transport-vessel.

The foreign debt, amounting to £693,160, has been assumed by the Guayaquil and Quito Railroad Company. The internal debt in 1897 was 4,580,000 sucres.

Commerce and Production.—The chief product is cacao, grown in the coast provinces. The production in 1899 was 26,413,571 kilograms. Sugar, ivory-nuts, and coffee are exported in considerable quantities. Minor products are cinchona, cotton, orchilla, and sarsaparilla. The rubber forests have been so exhausted that they are being replaced by planting. Gold is found in many places, and American companies are getting the value of 50 cents a cubic yard from gravel and 1 ounce of gold per ton from quartz. Silver, iron, copper, and lead ores are found in abundance, and large deposits of coal and petroleum. The exports from the port of Guayaquil in 1898 were 16,781,700 sucres in value, consisting of cacao for 13,202,370 sucres, rubber for 933,400 sucres, coffee for 422,350 sucres, sugar for 276,500 sucres, hides for 270,600 sucres, ivory-nuts for 230,800 sucres, cotton prints for 160,000 sucres, raw cotton for 114,000 sucres, Panama hats for 89,000 sucres, other articles for 782,680 sucres, and specie for 300,000 sucres. The quantity of cacao exported from Ecuador in 1899 was 27,703,545 kilograms, of which France took the most, Germany coming next, and then Spain, Great Britain, and the United States.

Navigation.—The port of Guayaquil was visited in 1899 by 207 vessels, of 305,800 tons, nearly half the tonnage being British and the rest mostly Chilean and German.

Railroads and Telegraphs.—The railroad to connect Quito with Guayaquil was begun by the Government, which built the section from Duran, opposite the seaport, to Chimbo, 58 miles, and then stopped. The railroad company that has undertaken to complete the work will rebuild this section and construct the remaining 292 miles, the route passing through a rich agricultural country producing coffee, cacao, and sugar. Laborers brought from Jamaica to work on the railroad struck in the beginning of 1901, but were compelled to go back to work by soldiers, against which proceeding the Jamaican Government raised a protest. The telegraphs have a total length of 1,242 miles.

EGYPT, a principality in northern Africa, tributary to Turkey, and under the military occupation and political and financial control of Great Britain. The Government is theoretically an absolute monarchy of the Mohammedan type, but the throne passes by the European law of primogeniture, and the Khedive, or Viceroy, is advised by a Council of Ministers. The reigning Khedive is Abbas Hilmi, born July 14, 1874, who succeeded his father, Mehemet Tewfik, on Jan. 7, 1892. The heir apparent is Prince Mohamed, born Feb. 20, 1899. The British occupation has lasted since the suppression of the military revolt led by Arabi Pasha in 1882, and since Jan. 18, 1883, an English financial adviser has possessed the power of veto over financial measures, and has generally exercised a decisive voice in all important measures, imposing such as he and his Government consider expedient and desirable, and preventing the enactment of others that they disapprove. A conference of representatives of the powers, assembled at Constantinople to consider the situation caused by the bankruptcy of the Egyptian treasury, dissolved when England, after the signature of a self-denying protocol, intervened single-handed in Egypt. France having refused to join in the intervention, the dual control which France and Great Britain had previously exercised over Egyptian finances was abolished, leaving Great Britain alone in control of the Egyptian Government. The assurance was given at that time, and reiterated afterward by successive British ministers, that Great Britain would evacuate Egypt as soon as Egypt should be able to maintain a firm and orderly government.

The Cabinet of the Khedive consisted at the beginning of 1901 of the following members: President of the Council and Minister of the Interior, Mustapha Fehmi Pasha; Minister of War and Marine, Mohammed Abani Pasha; Minister of Public Works and of Education, Hussein Fakhry Pasha; Minister of Foreign Affairs, Butros Ghali Pasha; Minister of Finance, Ahmet Mazlum Pasha; Minister of Justice, Ibrahim Fuad Pasha. The British diplomatic agent was Viscount Cromer; financial adviser, J. L. Gorst; commander-in-chief of the army of occupation, Lieut.-Gen. R. A. J. Talbot.

Area and Population.—The area of Egypt proper is about 400,000 square miles, but only 12,976 square miles are fertile and inhabited by a settled population. The population at the census of June 1, 1897, was 9,811,544, comprising 4,985,021 males and 4,826,523 females. The census was not taken beyond Wadi Halfa, which then marked the military frontier. The population of Cairo, the capital, was 570,062; of Alexandria, 319,766; of Tunta, 57,289; of Port Said,

42,095; of Assiout, 42,012. Of the total Egyptian population over ten years of age, 63 per cent. were employed in agriculture, but less than 1 per cent. of the foreigners, who formed 48 per cent. of the professional class, and nearly half of whom, but only a sixth of the native Egyptians were employed in industries and trades.

Finances.—The revenue in 1900 amounted to £ E. 11,447,000 and expenditure to £ E. 9,895,000, the budget estimate having been £ E. 10,380,000 for revenue and the same for expenditure. The budget for 1901 made the revenue £ E. 10,700,000, of which £ E. 4,698,000 were derived from the land tax, £ E. 137,000 from other direct taxes, £ E. 900,000 from customs duties, £ E. 1,000,000 from tobacco, £ E. 500,000 from other indirect taxes, £ E. 615,000 from other taxes, £ E. 207,000 from miscellaneous sources, £ E. 2,000,000 from the railroads, £ E. 56,000 from telegraphs, £ E. 120,000 from the post-office, and £ E. 229,000 from other services, making the total ordinary revenue £ E. 10,484,000, to which was added a contribution of £ E. 215,600 from the general reserve fund. The budget estimate of expenditure for 1901 was £ E. 10,636,000, of which £ E. 255,361 was for the civil list, £ E. 2,322,105 for expenses of the administration, £ E. 957,200 for operating the railroads, £ E. 44,000 for the telegraphs, £ E. 114,973 for the post-office, £ E. 69,590 for other services, £ E. 439,870 for the Egyptian army, £ E. 84,825 for the British army of occupation, £ E. 437,000 for pensions, £ E. 665,041 for tribute to Turkey, £ E. 37,300 for expenses of the Caisse de la Dette, £ E. 3,489,202 for the consolidated debt, £ E. 207,082 for unfunded debt, £ E. 250,000 for suppression of the corvée, £ E. 250,000 for the Soudan deficit, and £ E. 32,000 for a reserve for unforeseen expenses, making the total ordinary expenditure £ E. 9,822,728, to which are added £ E. 265,037 for conversion economies, £ E. 63,385 for the sinking-fund of the guaranteed loan, and £ E. 484,850 for the share of the surplus to be paid into the general reserve fund. The net surplus in 1900 was £ E. 559,000. The ordinary revenue exceeded that of 1899 by £ E. 247,000 notwithstanding remissions of the land tax made necessary by the low Nile of 1899. There was a deficit of £ E. 2,606,000 in the first four years of British control ending with 1886, and since then a surplus has been realized of the aggregate amount of £ E. 9,986,000, an average of £700,000 sterling per annum, in spite of large reductions of taxation, heavy expenditure on public works, and latterly the Soudan charges, which in 1900 amounted to more than £400,000.

The Egyptian debt on Jan. 1, 1900, amounted to £103,049,000 sterling, the 3-per-cent. guaranteed loan amounting to £8,410,800, the privileged 3½-per-cent. debt to £29,393,580, the unified 4-per-cent. debt to £55,971,960, the Daira Sanieh 4-per-cent. loan to £6,162,800, and the 4½-per-cent. domains loan to £3,109,900. The annual debt charge, including the sinking-fund, was £ E. 3,862,302. The charges on debts of all descriptions, including tribute, was £ E. 4,727,047 in the estimates for 1901. The reserve funds established in 1887 amounted on Jan. 1, 1900, to £ E. 5,206,154, of which £ E. 3,565,468 are the economies from conversion, £ E. 1,341,177 the general reserve fund, and £ E. 299,509 the special reserve fund.

The Army.—The military law requires every Egyptian, excepting priests, students, and some other classes, to serve six years in the army unless he pays £ E. 20 for exemption. The army has been trained by British officers, who hold the higher commands. The commander-in-chief, who

has the title of sirdar, is Sir Reginald Wingate, colonel in the British army. The total peace strength of the army in 1900 was 102 officers and 175 employees in the general staff and administration, 57 officers and 1,340 men in the cavalry, 545 officers and 15,646 men in the infantry, 102 officers and 601 men in the camel-corps, 50 officers and 1,341 men in the artillery, 58 officers and 284 men in the medical corps, 7 officers and 30 men in the veterinary department, 41 officers and 68 men in the engineers, 5 officers and 18 men in the military school, and 2,300 railroad troops; total, 915 officers and 22,787 men, besides 623 civil employees; the coast service employed 144 officers and 1,839 men. The strength of the British army of occupation in 1900 was 4,466 men.

Commerce and Production.—The production of cotton in 1900 was 6,510,000 kantars, about 645,000,000 pounds. There were 1,262,000 acres under wheat, 1,592,000 acres under corn, 906,000 acres under cotton, and 67,120 acres under sugarcane. The sugar exports in 1899 were 64,390,550 kilograms, valued at £ E. 664,427. The exports of cotton were 6,001,222 kantars, valued at £ E. 11,598,222. The total value of merchandise imports in 1900 was £ E. 14,112,369, and of exports £ E. 16,766,609. The imports of specie were £ E. 4,114,612, and exports £ E. 2,602,790. Imports of animals and animal food products were valued at £ E. 652,357, and exports at £ E. 129,733; imports of hides, skins, leather, and leather manufactures at £ E. 206,860, and exports at £ E. 84,855; imports of other animal products at £ E. 84,373, and exports at £ E. 41,611; imports of cereals, vegetables, etc., at £ E. 1,532,341, and exports at £ E. 2,615,433; imports of provisions and drugs at £ E. 404,735, and exports at £ E. 676,226; imports of spirits, oils, etc., at £ E. 815,888, and exports at £ E. 16,318; imports of rags, paper, and books at £ E. 177,103, and exports at £ E. 15,690; imports of wood, coal, cane-work, etc., at £ E. 2,093,061, and exports at £ E. 16,350; imports of stone, lime, glass, etc., at £ E. 399,008, and exports at £ E. 1,528; imports of dyes, etc., at £ E. 282,875, and exports at £ E. 21,112; imports of chemical products at £ E. 276,509, and exports at £ E. 15,547; imports of textile materials and manufactures at £ E. 4,011,498, and exports at £ E. 13,104,860; imports of metals and metal manufactures at £ E. 1,817,971, and exports at £ E. 5,691; imports of miscellaneous merchandise at £ E. 439,609, and exports at £ E. 12,689; imports of tobacco at £ E. 577,203.

Navigation.—The number of vessels entered at the port of Alexandria during 1899 was 2,805, of 2,414,674 tons; cleared, 2,758, of 2,389,058 tons.

Railroads, Posts, and Telegraphs.—The Government railroads had a length of 1,393 miles on Jan. 1, 1900, besides which there were 670 miles of narrow-gauge railroads belonging to companies. The number of passengers carried on the state railroads in 1899 was 11,284,284; tons of freight, 3,055,897; gross earnings, £ E. 2,112,065; working expenses, £ E. 950,429; net receipts, £ E. 1,161,636.

The post-office in 1899 forwarded 12,920,000 internal and 2,659,000 foreign letters and postal cards, 7,650,000 internal and 1,181,000 foreign newspapers, 188,000 internal and 63,700 foreign parcels, and 598,500 post-office orders and remittances, amounting to £ E. 17,437,000.

The telegraphs of the Government system on Jan. 1, 1901, had a length of 2,106 miles, with 9,440 miles of wire. The number of despatches in 1900 was 3,288,662, against 2,958,258 in 1899.

Suez Canal.—The number of vessels that passed through the Suez Canal in 1899 was 3,603,

of 9,895,630 tons, of which 2,310, of 6,586,311 tons, were British; 387, of 1,070,767 tons, German; 226, of 598,819 tons, French; 206, of 418,867 tons, Dutch; 101, of 266,360 tons, Austrian; 65, of 224,636 tons, Japanese; 55, of 171,589 tons, Russian; 69, of 132,765 tons, Italian; 59, of 123,757 tons, Norwegian; 38, of 114,149 tons, Spanish; 26, of 67,690 tons, American; 21, of 58,062 tons, Danish; 26, of 36,670 tons, Turkish; 5, of 12,411 tons, Belgian; 4, of 8,438 tons, Greek; 2, of 1,921 tons, Egyptian; 3, of 1,288 tons, Portuguese; 2, of 592 tons, Swedish; and 1, of 538 tons, Siamese. The receipts in 1899 were 94,317,505 francs, of which 88,698,555 francs came from tolls. The expenses were 24,863,166 francs, leaving a gross profit of 69,454,339 francs. The number of passengers who passed through the canal was 221,347. The share and loan capital on Jan. 1, 1900, amounted to 464,100,827 francs, increased by 151,174,307 francs of revenue applied to improvement of the canal and 17,764,598 francs of redemption and insurance funds, making the total capital 633,039,732 francs. The net profit for 1899 was 54,153,660 francs. The amount distributed in dividends was 51,538,028 francs.

In 1900 the number of vessels that passed through the canal was 3,441, of 9,738,152 tons, comprising 2,407 merchant vessels, 773 mail-steamer, and 261 war-vessels. The number of passengers was 282,194. The traffic receipts were 90,623,608 francs. The civilian passengers numbered 102,000; pilgrims, convicts, and emigrants, 25,000; military, 155,000. Owing to events in China, Russia sent out 37,000, France 34,000, and Germany 24,000 troops, while British outward-bound troops fell from 19,000 in 1898 and 15,000 in 1899 to 5,600. The United States troops homeward bound from the Philippines numbered 22,000, and outward bound 13,000. The British mercantile tonnage declined from 77.2 per cent. in 1899 to 71 per cent., and that of Germany increased from 9.3 to 11.1 per cent. of the total. Of the total number of vessels 1,935 were British, 462 German, 285 French, 232 Dutch, 126 Austrian, 100 Russian, 82 Italian, 63 Japanese, 34 Spanish, 30 Norwegian, 28 Turkish, 27 Danish, 22 American, 7 Belgian, 3 Portuguese, 2 Swedish, 2 Greek, and 1 Argentine. The mean net tonnage per vessel has increased from 1,951 tons in 1889 to 2,743 tons in 1899 and 2,830 tons in 1900. A loan of 100,000,000 francs authorized in 1885 for improvements was finally exhausted in 1901, and a new loan of 25,000,000 francs was sanctioned. The adoption of the electric light for night traffic and the increase of business culminating in 1899 enabled the company to carry out a great part of the work of improvement with surplus earnings. Further improvements to be made are a new series of stations for large vessels and the deepening of the canal to 9½ meters.

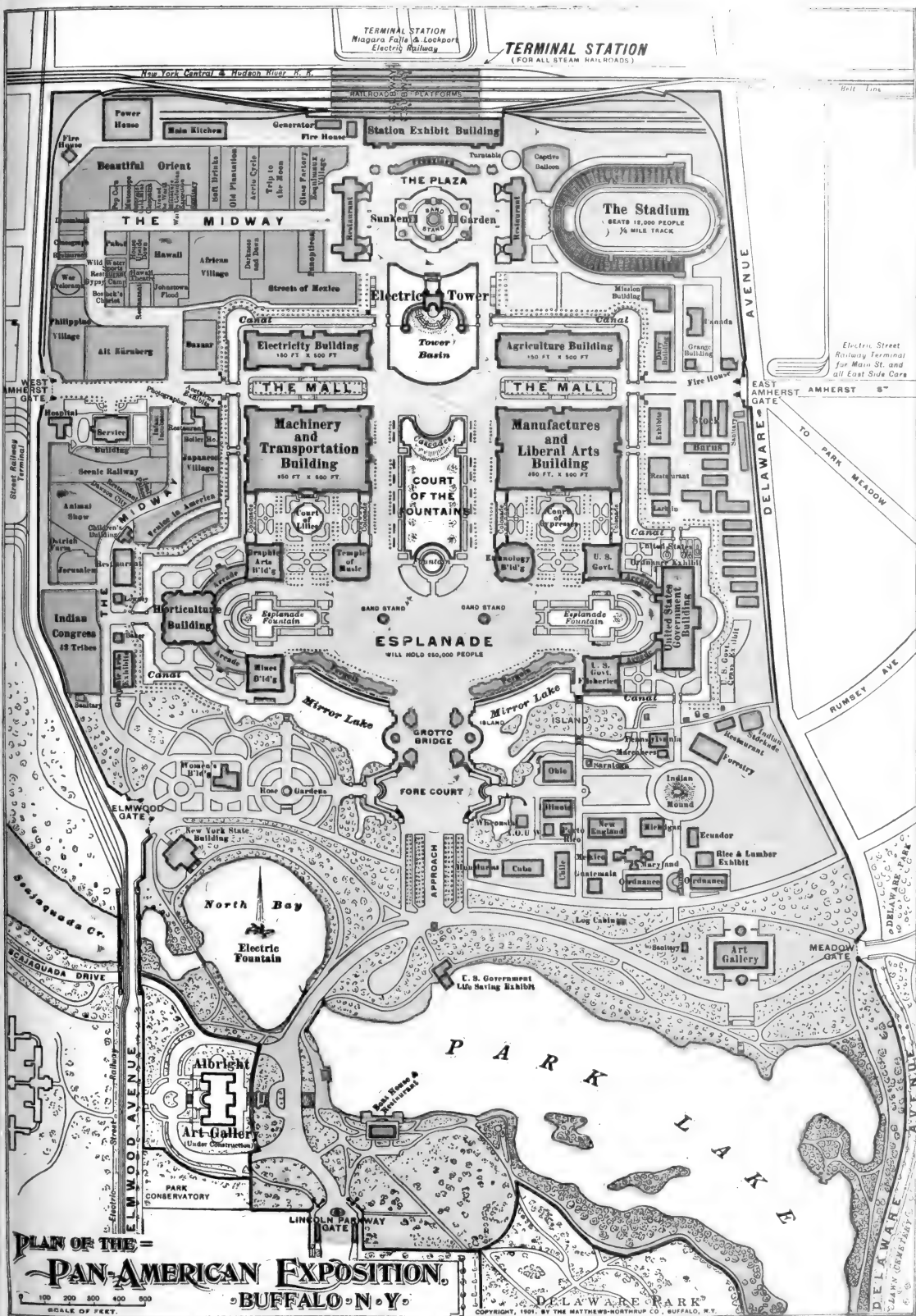
Economical Development.—The British administration, which has rehabilitated the finances of Egypt, has wrought improvement in the public life of the country as well as in its economical situation, which has been immensely bettered by the irrigation works begun by French and carried to completion twenty years later by English engineers. The cultivated ground subject to taxation has increased from 4,175,000 feddans in 1880 to about 6,000,000 feddans in 1900, and the improvement in the water-supply has increased production 50 per cent. Numerous railroads have been constructed, including electric lines by which cotton is transported and travel facilitated in the country districts. The land tax, the principal source of revenue of the Egyptian Government, has been gradually diminished in annual instal-

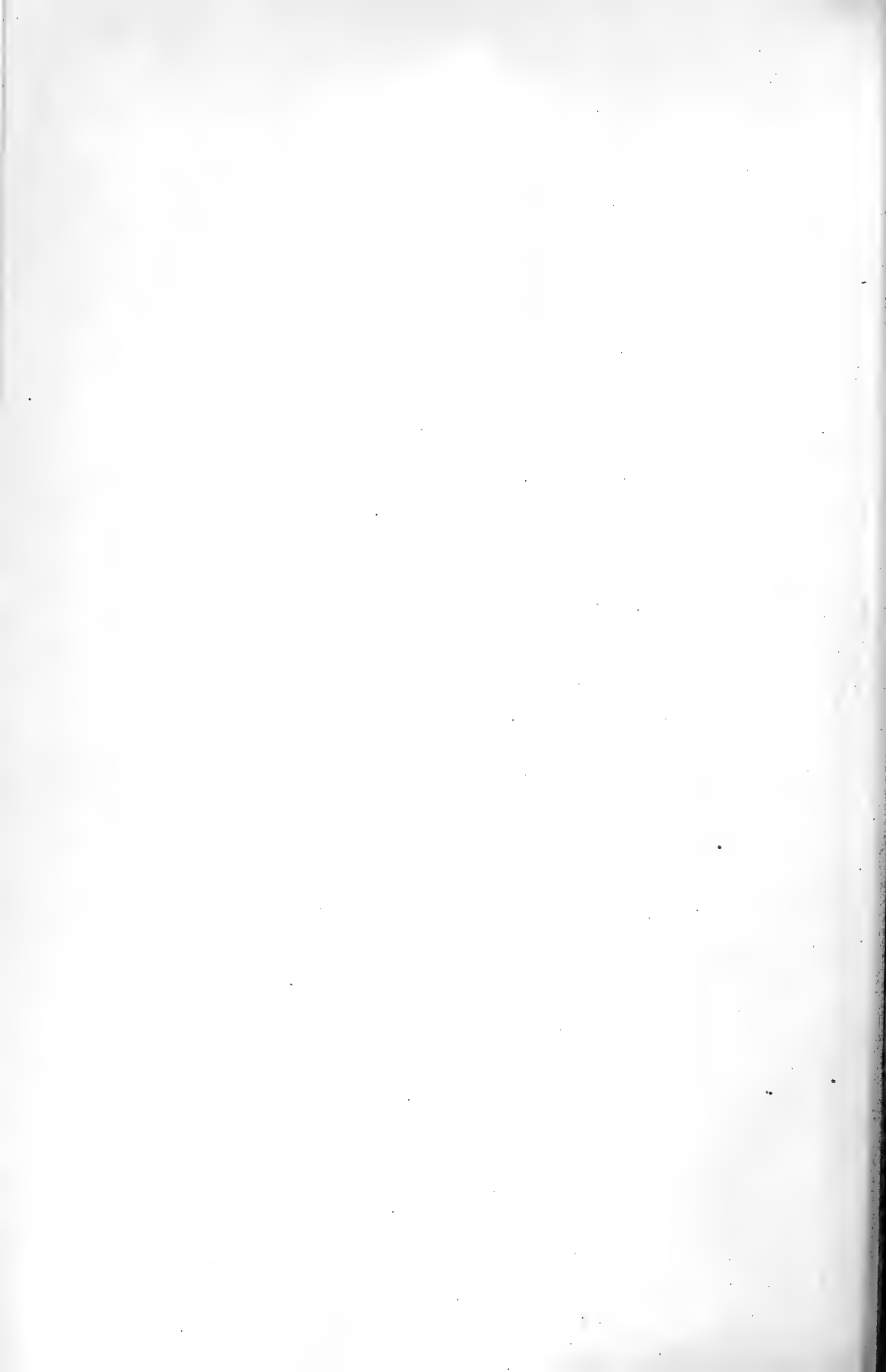
ments by the sum of £ E. 563,000, yet owing to the extension of the cultivated area the proceeds remain about the same as in 1880. Post and telegraph offices have multiplied, and even the telephone has been introduced.

One of the social improvements that the British have endeavored to introduce is to free the fellahen from their indebtedness to the money-lenders, who constitute a large unproductive class. Although their average gains are not great, the aggregate burden bears enormously on the producers, who pay 40 and 50 per cent. interest. The banks were induced to lend small sums for fixed terms at 10 per cent. through local agents, who receive a commission of 1 per cent., which gives them a sufficient motive to present the advantages of the new system to the fellahen and persuade them to borrow at the lower rate in order to pay off their loans obtained at exorbitant rates from the usurers. English inspectors supervise the agents, and see that contracts are honestly drawn up. The Government collects the instalments along with the ordinary taxes and pays them over to the banks, which have no expense in placing or collecting the loans, for which they receive 6 per cent. net interest, aside from the risk of bad debts, which is very slight, £ E. 28,122 having been collected in 1900 from 5,035 borrowers without any default.

Lord Cromer regards the fellahen as naturally more thrifty than the English peasantry. The desire of the Egyptians to learn European languages is not encouraged by the Government, which is anxious to improve the instruction in the vernacular schools. Of those who do study European languages 85 per cent. choose English, which is now a passport, rather than French, to Government employ. There are far too many small official posts, depending on abuses which the British intend to reform, and for these there is a great excess of applicants. Of native artisans there is a great lack, most of the mechanical work being done by imported foreigners. There are over 2,000 girls in the Government schools, showing that the Egyptian prejudice against the education of women, 99.7 per cent. of whom were unable to read and write in 1897, is being gradually overcome.

The completion of the Nile barrage at a cost of less than £500,000 has doubled the cotton crop of Lower Egypt, adding £ E. 5,000,000 a year to the national production. The projects for the benefit of Egyptian agriculture were estimated in 1885 at a total cost of £ E. 7,000,000. In 1902 the last and greatest of these will be completed—the great dams at Assouan and Assouit—which will enable wide tracts of land to bear two crops a year instead of one, bring waste districts into tillage, and greatly increase the area of sugar cultivation. The Assouan reservoir will supply 1,000,000,000 cubic meters of water annually. The dam at Assouan is 1½ mile long, pierced by 180 openings, 23 feet high and 7 feet wide, which have steel sluice gates. The regulating dam at Assouit is a barrage of masonry on steel piling, with 119 sluices 16 feet wide. Sir William Garstin, who has studied a plan to provide 3,000,000,000 or 4,000,000,000 cubic meters more to Egypt's summer supply of water, rejects the project of Mr. Willcocks, the designer of the Assouan reservoir, of a dam at the outlet of the Victoria Nyanza, because such a dam would flood populous and fertile regions on the borders of the lake, half the territory affected being German. He considers it impracticable to impound the waters of the Albert Nyanza for the purpose, because the earthquakes that occur there would be dangerous to the





dam, and the region of swamps through which the river flows down is not adapted for canalization. The most likely source for an additional supply he finds in Lake Tsana, at the head of the Blue Nile, but this is in Abyssinia, and can not be utilized without the consent of the Emperor Menelek. The navigation of the Blue Nile would at the same time be improved. The water-supply could be supplemented by utilizing also the water of the upper Nile that is wasted in swamps, either by embanking the Bahr el Gebel or by using the Bahr el Zeraf as an additional channel for the summer supply. If such a work is ever carried out a large part of the Soudan can be irrigated. Meanwhile the Egyptian Government intends to employ its financial resources in the construction of a railroad between the Nile valley and the Red Sea as an outlet for the commercial products of the Soudan. The *sudd* obstructing the channels of the Nile affluents, consisting of masses of decayed vegetation, has been removed from the Bahr el Gebel, giving a free navigable channel from Rajaf to Omdurman, a distance of 1,200 miles. Half of the water issuing from the equatorial lakes which might reach Egypt is absorbed by the marshes that extend for a distance of 400 miles from Bor to Lake No. The cutting of the *sudd* had no effect in increasing the flow. In 1900, as well as in 1899, there was a failure of rains in the upper Nile valley, causing distress, which was aggravated by the ravages of locusts. The main supply of the White Nile in 1900 was furnished by the Sobat and to a less extent by the Bahr el Ghazal.

The development of the Soudan is the task now taken in hand by the Egyptian Government, but this does not preclude some further gradual relief of the fiscal burdens placed on the Egyptian taxpayers.

The opening of the Soudan to commerce has revived the gum trade of Kordofan. Cattle and sheep have become plentiful in that province. The country on the Blue Nile about Elifun is well cultivated and populous. Gedarif, in the vicinity of which large quantities of gum are gathered, has 30,000 inhabitants. The black soil suitable for cotton is not cultivated here nor at Gallabat, where population and animals are scarce, but the town is recovering and carries on trade in coffee, wax, honey, and rhinoceros hides. Everywhere in the Soudan whole districts are depopulated as the result of dervish rule, and consequently the soil lacks laborers, and the situation is rendered worse by the confusion in the ownership of land. The administration of the Soudan is likely to entail a heavy financial burden on Egypt for many years, as the process of recovery is necessarily slow. The difficulty of providing irrigation is a serious obstacle to the development of agriculture. The Government is making energetic efforts to improve the condition of the inhabitants. Great consideration is shown in the collection of taxes, from which land that is not irrigated is quite exempt. The Government has begun tentatively to buy the crops raised by the fellaheen with the object of encouraging agriculture. Commissions have been appointed to regulate and establish titles to real estate in town and country. Continuous possession for five years is held to be sufficient evidence of ownership. The prohibition against raising tobacco has been annulled. Disbanded Soudanese battalions have been colonized as an experiment on the Blue and White Niles. Tranquillity prevailed throughout the Soudan in 1901, there was a considerable decline in the price of foodstuffs, and other improvements in the condition of the country were noticeable.

Sir Reginald Wingate, the sirdar, inspected all the provinces of the Soudan in the first half of 1901. When Anglo-Egyptian post offices established in the Bahr el Ghazal the Congo State, which by the convention of 1894 obtained a lease of that province, but did not proceed to occupy it in consideration of French susceptibilities, reclaimed its rights under the lease. The Congo State leased to Great Britain in exchange the strip of territory between Lake Albert Edward and Lake Tanganyika, which was required for the exclusive British route from Cape Town to Cairo, but the British Government, in view of German and French objections to the alienation of Congo territory, refrained from taking possession. Anglo-Egyptian troops were not only posted in the parts of the Bahr el Ghazal which the Belgians had not occupied, but at Lado, where a Belgian garrison was in possession, the Egyptian Government taking the ground that Egypt after the fall of the dervish Government at Omdurman resumed all her former rights in the Soudan. The Belgian troops were not withdrawn, and the question was discussed diplomatically between the British and the Congo governments.

The anti-British sentiment still rife in Egypt was manifested in serious riots that occurred in Alexandria early in August. Arabi Pasha, the leader of the military revolt that led to the British occupation of Egypt in 1882, was pardoned by the Khedive in May, and returned from his long exile in Ceylon to pass the remainder of his life in his native land.

EXPOSITION, THE PAN-AMERICAN.

This was held in Buffalo, N. Y., from May 1 to Nov. 2, 1901. (For the previous interstate expositions, see the list in the *Annual Cyclopædia* for 1898, page 249.)

Organization.—Soon after the Cotton States Exposition, held in Atlanta in 1895, the plan of organizing a Pan-American exposition on the Niagara frontier was conceived, to illustrate the progress of civilization in the Western Hemisphere during the nineteenth century. In 1897 the Pan-American Exposition Company was incorporated, and a site was selected on Cayuga island, near the village of La Salle, where a memorial stake was driven by President McKinley, in July, 1897. The war with Spain followed, and the enterprise was postponed; but on Dec. 5, 1898, a reorganization of the project, on a larger basis, with a new charter, was urged upon the community by Conrad Diehl, then mayor of Buffalo. A new charter was approved in January, 1899, and bills were introduced both in the national and the State Legislature, authorizing exhibits on the part of the nation and the State, which were approved, and in March, 1899, the Exposition Company was perfected.

Management.—The incorporators of the exposition elected a Board of Directors, who in turn elected officers of the company. These were as follow: President, John G. Milburn; Secretary, Edwin Fleming; Treasurer, George L. Williams. The executive officers were: Director-General, William I. Buchanan; Commissioner-General and Auditor, John B. Weber; Director of Concessions, Frederic W. Taylor; Commander of Police, John Byrne; Medical Director, Roswell Park; Director of Works, Newcomb Carlton; Superintendent of Landscape, Rudolf Ulrich; Superintendent of Electrical Exhibits, George F. Sever; Director of Fine Arts, William A. Coffin; Superintendent of Graphic Arts, Machinery, Transportation Exhibits, and Agricultural Implements, Thomas M. Moore; Superintendent of Liberal Arts, Selim H. Peabody; Super-

intendent of Ethnology and Archeology, A. L. Benedict; Superintendent of Live Stock and of Dairy-Products and Agricultural Products, Frank A. Converse; Superintendent of Horticultural and Food-Products, Frederic W. Taylor; Superintendent of Mines and Metallurgy, David T. Day; Superintendent of Manufactures, Algar M. Wheeler; Superintendent of Press Department, Mark Bennett; Superintendent of Passenger Department, James V. Mahoney.

Finances.—The Pan-American Exposition Company was organized with a capital stock of \$2,500,000, with authority to issue bonds for a similar amount. The bill introduced into the New York Legislature, which was signed on March 1, 1899, appropriated \$300,000 for a State building and exhibit, and Congress, on March 3, 1899, appropriated \$300,000 for a Government building and exhibit. Citizens of Buffalo subscribed and paid for stock and bonds to the amount of \$4,467,905.

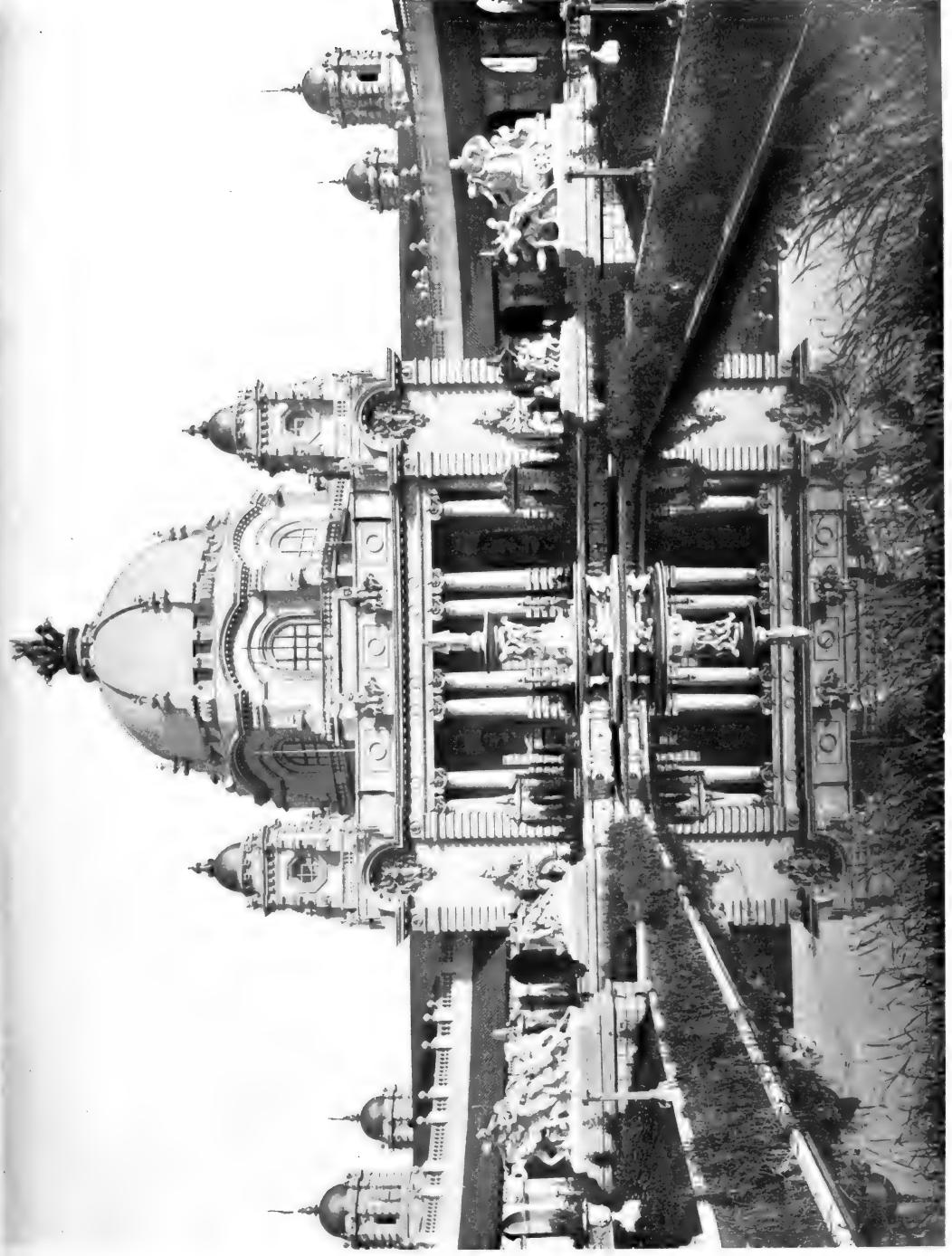
Location.—The original site on Cayuga island having been abandoned, the Board of Directors chose grounds in the northern part of Buffalo, within three miles of the business center of the city. The plot contained 350 acres, and its dimensions from north to south were about one mile, and from east to west about half a mile. Of this tract, 133 acres were improved park property, including a watercourse and an irregular and beautiful lake, half a mile in length, which was described as "the most beautiful interior lake in the country," and became one of the principal water features of the exposition. This site was considered the most accessible of any that could have been chosen, and it was reached over the electric street-railway system by means of transfers, so that it was within a twenty minutes' ride from the central portions of the city. A line of double-track steam railway, known as the New York Central Belt Line, encircled the city, and touched the northern boundary of the exposition grounds. By means of this line, access was had to all the steam railways entering Buffalo.

Buildings.—The principal buildings were arranged around a broad court, having the form of an inverted letter T. The transverse section of this court, called the Esplanade, ran east and west, and there was a space of more than 1,700 feet between the extremes. The Court of Fountains, which was north of the transverse court, was 500 feet wide and 200 feet from north to south. The Aquatic Basin in this court was 225 feet wide by 565 feet long, and covered more than two acres. It contained numerous fountains, and was one of the most picturesque features. On the right was a subordinate court, known as the Court of Cypressess, while to the left, in similar design, was the Court of Lilies. Beyond the Court of Fountains was the famous Electric Tower, while to the right were the buildings devoted to agriculture and manufactures and the liberal arts, and to the left were the buildings devoted to electricity and machinery and transportation, these four being the largest of the exhibition buildings. At the lower end of the Esplanade were the pylons of the Triumphal Bridge, forming an entrance to the Esplanade when approached from the south. The ground was broken for the exposition on Sept. 26, 1899, and the first building to be erected was the administrative headquarters for the officers of the exposition, whose presence was required upon the grounds, to which the name of Service Building was given. Simultaneously with the erection of the great buildings was the excavating of a wide canal, more than a mile in length, and the crea-

tion of small lagoons, while at the same time thousands of trees and shrubs were planted, in order to make the grounds attractive. The preparation of plans for the exposition was entrusted to a board of architects, composed of John M. Carrère, Chairman, of Carrère & Hastings, New York; John G. Howard, of Howard, Caldwell & Morgan, New York; Walter Cook, of Babb, Cook & Willard, New York; Robert S. Peabody, of Peabody & Stearns, Boston; George F. Shepley, of Shepley, Rutan & Coolidge, Boston; George Cary, Buffalo; August C. Esenwein, of Esenwein & Johnson, Buffalo; Edward B. Green, of Green & Wicks, Buffalo. The electrical effects were planned by Luther Stieringer, with Henry Rustin as engineer, while the landscape plan and all formal landscape work, including bridges and approaches, were under the direct supervision of John M. Carrère, chairman of the board. Rudolf Ulrich was the landscape gardener.

The style of architecture followed was a free adaptation of the Spanish Renaissance, chosen in graceful compliment to those Latin-American countries whose valued assistance had been sought and gained. No such aggregation of colonnades and pavilions, arcades and balconies, loggias, domes, lanterns, towers, minarets, flag standards, and finials was ever before seen under a northern sky. The color treatment was devised by C. Y. Turner, and gained for the exposition the name of "The Rainbow City," or "The Tinted City." It had for its purpose the harmonizing of the buildings, not only with one another, but with their surroundings, such as the sky, the grass, and the water. The colors symbolized the progression from the less civilized stage to the highest, and so the crudest colors were nearest the entrance, and as you proceeded farther into the grounds they became softer and more refined, until finally, at the Electric Tower, at the head of the Court of Fountains, the highest note of all was reached in the ivory-white and gold and delicate blue. The entire color scheme, as described by Mr. Turner at the time, is as follows:

"The horticultural group has orange as a basis for the color of the body of the building. On the Government Building a warm yellow is used for the plain surfaces. For the Music Hall I have used red, quite pure, as the foundation color. On the Ethnology Building, golden orange. On the Machinery and Transportation Building green was the basis. Opposite it, across the court, the Liberal Arts Building is a warm-gray color. The Electricity and Agricultural Buildings are different shades of light yellow, while the restaurant and entrances to the Stadium have a French gray as the basis, with a lighter shade of the same tint on the Propylæa. For the Electric Tower I reserved a light ivory. In the horticultural group I have used blue and white largely in the ornamental portions of the panels, pilasters, spandrels, etc., relieved now and again by brighter shades of rose and deep yellow. The Government Buildings have a mild gray for the structural portions to relieve the yellow, and in those buildings, where it is possible, the green note is introduced in the sashes and doors, blue on the dome, and gold on the smaller domes. Blue-green is on the dome of the Temple of Music, and is repeated again on the Ethnology Building. On the Machinery and Transportation Building red, yellow, and green are introduced in the great doorways and corner pavilions, and also are distributed through the towers, while blue and gold play a large part in the detail work of the Liberal Arts Building, especially on the ceilings of the colonnades and east and west entrances, and in the



UNITED STATES GOVERNMENT BUILDING.
PAN-AMERICAN EXPOSITION.

great pediments of the north and south entrances. The yellow of the Electricity Building is relieved by gray trimmings and green doorways, which are elaborately enriched in their ornamentation by delicate shades of the prevailing tones used throughout the exposition. The Agricultural Building is warmer, and there are blue, yellow,



THE COURT OF FOUNTAINS.

and ivory, and stronger notes of red and green in the entrances. The restaurants are ivory and French gray. The sashes and doors are painted green, and the minarets and pinnacles are tipped with gold. The Propylæa, which curves across the north end of the grounds, has a wide-open arcade, the panels of which are enriched with brilliant red, where white statues are placed, while the panels above are a bright yellow. The ceilings are blue, and the trellis above is made a strong violet hue. Violet occurs again at the entrances from the railway station through the great arch. The Railway Transportation Building is in a French gray, with green roof and ivory and gold trimmings, while the Stadium, one of the most imposing buildings of the exposition, will be a light ivory-gray, with pale blue-green sashes and doors. The tower is a very light ivory, and is enriched in the capitals, brackets, finials, stars, pinnacles, etc., with gold, and is crowned with a gilded figure of the Goddess of Light. The panels have the brightest fresh blue-green we could make, and are intended to suggest the water as it curves over the crest at Niagara."

Considering the buildings more in detail, and beginning at the north entrance, we reach, first, the—

Electric Tower, which was designed by John G. Howard, and was 375 feet high. The main body of the tower was 80 feet square and 200 feet high. The crown was in three parts, of diminishing proportions, the first of these being an arched loggia having wall surfaces brilliantly colored and richly ornamented in all details. Pavilionettes adorned each of the four corners and terminated in light, fantastic cupolas. Above the loggia was a high circular colonnade, entirely open, so as to allow the effect of the sky to be seen between the columns. A spiral stairway in the center led up to a domed cupola, on which was poised a figure, 16 feet high, designed by Herbert Adams and known as the Goddess of Light, which overlooked the entire exposition. At the base of the tower, and on the sides, were two colonnades, 75 feet high, which swept southward, forming a large semicircular space, opening toward the Court of Fountains. In the niches of these wings, running from west to east, were groups of statuary, representing Lake Michigan, by Louis A. Gudebrod; Lake Superior, by Philip Matiny; Lake Ontario, by Ralph Goddard; Lake St. Clair, by Henry Baerer; Lake Huron, by Philip Matiny; and Lake Erie, by Carl E. Tefft. The spandrels of the niche in the south face of the

tower and the smaller ones above the arch of entrance on the north side were modeled by Adolph A. Weinman, under the direction of Karl Bitter. They represented the four rivers—Niagara, Buffalo, St. Lawrence, and St. Clair. The loggion of these arches were modeled by the same sculptor. The groups ornamenting the pinnacles of the south side adjoining the water niche were modeled by George Gray Barnard, and typified The Great Waters in the Time of the Indian and The Great Waters in the Time of the White Man. The frieze, with children, garlands of fruit, and eagles, beneath the loggia at the top of the shaft, was executed by Karl Bitter, director of sculpture.

Agriculture Building.—This structure, east of the Electric Tower, was designed by George F. Shepley, and was 150 feet in length, facing the Court of Fountains, while the principal front, 500 feet in length, was on the Mall. The chief entrance was on this side, facing the Manufactures and Liberal Arts Building. Around this entrance was the greatest amount of enrichment, it being decorated with designs of fruits, vegetables, and flowers, expressing the character of the building, while large corbels were in the form of heads of animals of the field. A similar idea was shown in the decorations of the cornice. On the south side of the building, overlooking the Mall, was a loggia, formed of arches resting on single columns, with a ceiling of groined vaulting. The general treatment of the exterior was in the Spanish Renaissance.

Manufactures and Liberal Arts Building.—This building, designed by George F. Shepley, was southeast of the Court of Fountains, and separated from the Agriculture Building by the Mall. It occupied a space 350 by 500 feet, with a courtyard in the center, which was 132 by 170 feet, and was surrounded by a portico about 15 feet wide, with openings through semicircular arches, supported by square pillars. On the front of the building, between the arches, were the seals of the governments of the various South American republics, while over the entrance was a group of statuary typifying the arts and manufactures, designed by Bela Pratt. The building was entered from the middle of all four sides, and also from the pavilions on the corners. The south or upper front of the building faced the Court of Cypressess, and in the center of the front was the principal feature of the building, a great dome rising to a height of 130 feet, surrounded by four towers.

Electricity Building.—On the other side of the Electric Tower, opposite the Agriculture Building, was the Electricity Building, designed by Green & Wicks. It was 500 feet long from east to west, and 150 feet wide, covering 75,000 square feet. This building followed the Spanish-mission style of architecture, with Renaissance features. The entrances in the northern and southern façades consisted of arches between tall towers, while the towers carried ornamental cupolas. Surmounting the four corner towers were domed pavilions, and the spaces between the towers were embellished with colonnades and grilled windows. The roofs had broad, overhanging eaves, and the total height of the building was 160 feet.

Machinery and Transportation.—This building was directly south of the Electricity Building, and was on the west side of the Court of Fountains. It was designed by Green & Wicks, who followed the Spanish-American Renaissance style of architecture. Its dimensions were 500 feet from east to west, and 300 feet from north to south. The main entrances on the north and south façade were flanked on either side by tall towers having open lanterns and an intricate detail of plastic

ornamentation. The entrances were all rich in decorative work, and the walls were broken with arched windows, finished with ornamental grilled screens. Each façade was thus enriched with important architectural features, and at the four corners were open pavilions with red-tiled roofs that had broad overhanging eaves.

Temple of Music.—This structure, designed by Esenwein & Johnson, was at the northeast juncture of the Esplanade and the Court of Fountains, and south of the Machinery and Transportation Building, from which it was separated by the Court of Lilies. It was octagonal, and occupied a site 150 feet square. It was surmounted by a dome 180 feet high, suggestive in proportions of the dome of the Pantheon at Rome. In treatment the building was highly ornate, and it was profusely decorated with pilasters sculptured in relief, and over each of the four pediments was a sculptured group by Konti. The auditorium of the building had seating accommodations for 2,200 persons, and contained one of the largest organs ever made in the United States, built by Emmons Howard & Son. This was presented to the city of Buffalo at the close of the exposition by James N. Adam.

Horticulture Building.—At the extreme west end of the Esplanade was the Horticulture Building, designed by Robert S. Peabody. It was 220 feet square, with a dome and lantern rising to a height of 240 feet. The building was formed on the plan of a Greek cross, with four large arches on the principal axes, and small octagonal pavilions filling in the corners. The entrance from the Esplanade was framed under an ample pediment ornamented with rich decorations in relief, and picked out in color like the majolica work of Italy. Its style of architecture was more suggestive of the buildings of northern Italy than of Spanish-America.

Graphic Arts and Mines Buildings.—These two pavilions, which formed part of the horticultural group, were also designed by Robert S. Peabody, and were connected with the Horticulture Building by means of covered conservatories, filled with blossoming hothouse plants. The Graphic Arts Building was to the north, and was to the west of the Temple of Music. At the southwestern end of the Esplanade, and connected similarly with the Horticulture Building by an arcade used as a conservatory, was the Mines Building. These two pavilions were square, with four towers in the corners, and a loggia of three arches forming the entrances to the building, and had a floor space each of 30,000 square feet. The Fountain of Nature, by George F. Brewster, was directly in front of the east entrance of the Horticulture Building.

Government Buildings.—This group, which was on the east side of the Esplanade, was designed by J. Knox Taylor, supervising architect of the Treasury Department. The group, similar to the horticulture group, consisted of three structures connected by curved arcades. The style of architecture was Spanish-American, and suggested the great cathedral of the city of Mexico. The large central structure was made picturesque by numerous small towers and gilded domes and the use of Mexican gables at the north and south ends, and was crowned by a dome on which was an imposing figure of Victory. The height of the building was 250 feet, or 270 feet to the top of the statue. The pavilion to the south was occupied by the fishery exhibits, while the pavilion to the north contained the collections from the Philippines.

Ethnology Building.—This building, which was designed by George Cary, was west of the Gov-

ernment group of buildings, and south of the Court of Cypressess, which separated it from the Manufactures and Liberal Arts Building. Its general design was classical, with Renaissance decorative treatment. The building was circular in plan, with the main entrances on the diagonal axes. Between and connecting these was a continuous colonnade with a decorative frieze over the windows. Above the colonnade was a promenade with balustrade, and figures representing the five different races. Over each of the four entrances was a pediment, with the Pan-American seal forming a decorative motive of the triangular space above the gable. The building was covered by a dome resembling that of the Pantheon at Rome, 150 feet high.

The Stadium.—This amphitheater for athletic sports was designed by Walter Cook, and was in the northeastern part of the grounds. It was modeled after the Pan-Athenaic Stadium, which was cut in the side of Mount Pentelicus, near Athens, more than two thousand years ago, and was 680 feet long and 450 feet wide. The exterior consisted of a series of columns, with arches between, while the interior had seats for 12,000 persons, backed up against the arcade, and terminated by a sort of attic forming a promenade around the entire building. On the west side was the main entrance, above which was a tribune, with seats covered by a roof. The arena was laid out to obtain a quarter-mile running track, and its extreme dimensions were 569 feet in length and 260 feet in width.

The Propylæa.—This structure was also designed by Walter Cook, and consisted of a colonnade surmounted by a sort of pergola with green vines, flanked by two large archways, giving access from the railroad station. It formed the extreme north side of the Plaza, serving, as far as possible, to shut out the noise and smoke of the railway-trains. It was 500 feet long, and the gateways were broad arches 54 feet high and 36 feet wide. Two high, open towers surmounted the arches on either side, and statues were placed between the columns against a background of color.

Art Building.—This building was designed by Green & Wicks, and was at the extreme southeast end of the grounds, on a knoll 35 feet above, and west of, the Park Lake. It was in the Ionic style of architecture, resembling the Erechtheum in Athens. It was 250 feet by 150 feet wide, and was of fire-proof construction, being built of white marble and bricks. This building is to be a memorial of the exposition, and was given by J. J. Albright, of Buffalo, to his fellow citizens. It is to be the permanent home of the collection of the Buffalo Fine Arts Academy, which has been made the custodian of the property. Its cost was upward of \$350,000.

New York State Building.—This structure, designed by George Cary, is in the classical order of architecture, and follows the lines of the Parthenon in Athens. Like the Art Gallery, it is to be a permanent structure, and it was in the southwest end of the grounds, facing the north bay of the lake. In form it was a rectangle about 130 feet long by 80 feet wide, with a height of 50 feet. At the close of the exposition it became the home of the Buffalo Historical Society, and the large collections and library of that organization are to be preserved within its walls. The northern façade is faced with three-quarter columns, and the entrance is through a vestibule, the bronze doors of which were the gift of Andrew Langdon, President of the Buffalo Historical Society. The southern entrance was through a portico, embel-



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THE ELECTRIC TOWER.
PAN-AMERICAN EXPOSITION.



lished by ten Doric columns, and commanding a view of the Park Lake.

Minor Buildings.—These included a series of modest structures, among which were the Acetylene Building, devoted to exhibits of the acetylene industry; the Bazaar Building, which served for the sale of souvenirs of the exposition; the Dairy Building, imitating a Swiss chalet; the Forestry Building, constructed of logs, resembling the

and shall lead and enlighten our children's children. Electricity Building: Panel I—To those painters, sculptors, and architects, tellers of tales, poets, and creators of new worlds; to those actors and musicians who, in the New World, have cherished and increased the love of beauty; Panel II—To the statesmen, philosophers, teachers, and preachers, and to all those who, in the New World, have upheld the ideals of liberty and



GROUP OF STATE BUILDINGS.

cabins of the early settlers; the Ordnance Building, which formed a sort of annex to the Government Building, and was in the Spanish style of architecture; and the Woman's Building, which was a frame structure, formerly the home of the Country Club. The State buildings included those erected by the commonwealths of Dakota, Illinois, Michigan, Minnesota, New Jersey, Ohio, Pennsylvania, Wisconsin, and one by the New England States. The foreign governments that had buildings were Canada, Chile, Cuba, Ecuador, Guatemala, Honduras, Mexico, Porto Rico, and Santo Domingo. In addition to these may be mentioned the buildings of the United Workmen and the Knights of Maccabees, and the Mission Building.

Inscriptions.—Dedicatory inscriptions, written by Richard Watson Gilder, appeared on the various buildings. They were as follow: Agriculture Building: Panel I—To the ancient races of America, for whom the New World was the Old, that their love of freedom and of nature, their hardy courage, their monuments, arts, legends, and strange songs may not perish from the earth; Panel II—To the scholars and laborious investigators who, in the Old World and the New, guard the lamp of knowledge and, century by century, increase the safety of life, enlighten the mind, and enlarge the spirit of man. Machinery and Transportation Building: Panel I—To the great inventors and far-seeing projectors, to the engineers, manufacturers, agriculturists, and merchants who have developed the resources of the New World and multiplied the homes of freemen; Panel II—To those who in the deadly mine, on stormy seas, in the fierce breath of the furnace, and in all perilous places working ceaselessly, bring to their fellow men comfort, sustenance and the grace of life. Manufactures and Liberal Arts Building: Panel I—To the explorers and pioneers who blazed the westward path of civilization, to the soldiers and sailors who fought for freedom and for peace, and to the civic heroes who saved a priceless heritage; Panel II—To the prophets and heroes, to the mighty poets and divine artists, and to all the light-bearers of the ancient world who inspired our forefathers

justice, and have been faithful to the things that are eternal. The great pylons of the Triumphal Causeway (on the pylons are statues of Courage, Liberty, Tolerance, Truth, Benevolence, Patriotism, Hospitality, and Justice): Panel I—The spirit of adventure is the maker of commonwealths; Panel II—Freedom is but the first lesson in self-government; Panel III—Religious tolerance a safeguard of civil liberty; Panel IV—A free state exists only in the virtue of the citizen; Panel V—Who gives wisely builds manhood and the state, who gives himself gives best; Panel VI—To love one's country above all others is not to despise all others; Panel VII—The brotherhood of man, the federation of nations, the peace of the world; Panel VIII—Between nation and nation, as between man and man, lives the one law of right. The Stadium: Panel I—Not ignoble are the days of peace, not without courage and laureled victories; Panel II—He who fails bravely has not truly failed, but is himself also a conqueror; Panel III—Who shuns the dust and sweat of the contest on his brow feels not the cool shade of the olive. The Propylæa: Panel I—Here by the great waters of the North are brought together the peoples of the two Americas, in exposition of their resources, industries, products, inventions, arts, and ideas; Panel II—That the century now begun may unite in the bonds of peace, knowledge, good-will, friendship, and noble emulation all the dwellers on the continents and islands of the New World. Ethnology Building: I—"Knowledge begins in wonder" (Plato, Aristotle, Langley); II—"Speak to the earth, and it shall teach thee" (Job xii, 8); III—"Nothing that is human is alien to me" (Terence); IV—"And hath made of one blood all nations of men" (Acts xvii, 26); V—"What a piece of work is a man!" (Shakespeare, Hamlet, ii, 2); VI—"All are needed by each one" (Emerson, Each and All); VII—"The weakest among us has a gift" (Ruskin); VIII—"No se gano Zamora en una hora" (Cervantes, Part II, chap. lxxi); IX—"O rich and various man! thou palace of sight and sound, carrying in thy senses the morning and the night and the unfathomable galaxy; in thy brain the geometry

of the City of God; in thy heart, the bower of love and the realms of right and wrong" (Emerson, *The Method of Nature*).

Sculpture Plan.—A general symbolical idea extended through the decoration of the grounds by means of sculpture. More than 125 original groups, by celebrated American sculptors, were scattered about the grounds and buildings. No exposition was ever so adorned before. Beginning with the east wing of the Esplanade, the subject of Nature was chosen, and the large fountain at the head was called the Fountain of Nature, and its execution entrusted to George T. Brewster. The two subordinate fountains were by Edwin F. Elwell, and were known respectively as Ceres and Kronos. Six groups of statuary in the immediate vicinity, consisting of three series of two each, represented Mineral Wealth, by Charles H. Niehaus; Floral Wealth, by Bela L. Pratt; and Animal Wealth, by E. C. Potter. On the opposite side of the Esplanade, Man was the dominating subject, and corresponding to the Fountain of Nature was the Fountain of Man, by Charles Grady, while the subordinate fountains were dedicated to Hercules and Prometheus, and were by Hinton R. Perry. The groups representing the Savage Age, the Age of Despotism, and the Age of Enlightenment, were by John J. Boyle, Isidore Konti, and Herbert Adams. The large fountain on the north side of the Esplanade was the Fountain of Abundance, by Philip Martiny, while surrounding the Court of Fountains were numerous statues of fauns, nymphs, and bacchantes. The Triumphal Causeway, which formed the entrance to the Esplanade from the south, consisted of four pylons, crowned by mounted standard-bearers, by Karl Bitter, expressing Peace and Power. Large semicircular bays extended on either side of the bridge into the canal, and these bays supported colossal flag-poles, the bases of which were richly ornamented with figures and sea-horses, one having as its subject the Atlantic and the other the Pacific, both by Philip Martiny. In front of the Causeway were two guard-houses, surmounted by two colossal Fighting Eagles, by Maximilian Schwarzott. The equestrian statue of Washington, by Daniel C. French, was at the entrance of the main approach to the Triumphal Causeway, and one of Gen. Sherman, by St. Gaudens, was in front of the Art Building.

The Amusement Features.—These were arranged in the northwest portion of the grounds, under the name of the Picturesque Midway, or Lane of Laughter. The director of concessions, Frederic W. Taylor, grouped them under two headings—those that were devoted to distinctly amusement features, and those that were largely educational. A further classification, also presented by him, includes the following: Ethnological—African Village, Alt Nürnberg, Beautiful Orient, Chiquita, Eskimo Village, Gypsy Camp, Hawaiian Village, Indian Village, Infant Incubator, Japanese Village, Mexican Village, Old Plantation, Philippine Village, and Venice in America. Zoological—Bostock's Animal Arena, Diving Elks, Educated Horse Bonner, and Ostrich Farm. Pictorial—Cineograph, Cleopatra, Dawson City, Fall of Babylon (painting), Johnstown Flood, Kilauea, Living Pictures, Missionary Ridge, Microscopes, and Panopticon. Human Labor—Colorado Gold-Mine, and Glass Factory. Theatrical—Darkness and Dawn, Dreamland, House Upside Down, and Trip to the Moon. Sensational—Aero Cycle, Captive Balloon, Merry-go-round, Miniature Railway, and Scenic Railway. There were also booths or bazaars, where souvenirs could be purchased, as well as several restaurants.

Music, Special Days, and Conventions.—During the life of the exposition, various bands gave daily concerts from the band-stands about the Plaza and the Esplanade, and among these were the famous First Artillery Band, of Mexico, Sousa's Band, of New York, the Carlisle Indian Band, of Carlisle, Pa., Innes's Band, of New York, and the Ladies' Military Band, of Boston; also organ recitals were given daily in the Temple of Music by some seventy-five organists, representing nearly every portion of this country and Canada, each of whom presided at the organ for not more than two days. As has been the practise at expositions, each day during the life of the fair was devoted to the interests of some special community, organization, or nationality, the communities being represented by the various States, the organizations by fraternal societies, and the nationalities by various countries. Likewise, very many conventions were held in Buffalo, advantage being taken of the exposition to bring out a large gathering. These included college fraternities and organizations, ranging in variety from the Associated Bill-Posters of the United States and Canada to the American Institute of Architects.

Stamps and Medals.—The Post-Office Department issued a series of commemorative stamps in recognition of the exposition, similar to those used during the Trans-Mississippi Exposition. They were of uniform dimensions, 0.76 by 1.06 of an inch, the longer side being horizontal. The borders took the colors of the regular series on the same denominations of the current date. The words "Commemorative series, 1901," and "United States of America" next below appeared above the vignette; the legend in a line next below the central opening, with the denomination in a line at the bottom, was given in the same order on all stamps of the series. The lettering was in white Roman capitals, and the numerals were all white-faced Arabic in the roman type except the 10-cent, where the block-letter type of figure condensed to secure space for the two figures was used. The borders were well-separated from the central pictures, and the words of denomination at the bottom were preceded on the same line by the word "Postage." All the central illustrations were from photographs as the objects represented appear to-day, and were printed in black. The series was as follows:

One-cent, with the legend "Fast lake navigation," shown by a lake steamer, propelled by side-wheels, with one funnel, and the pilot-house well forward. Color, green.

Two-cent, with the legend "Fast Express," shown by a train of four cars, drawn by a four-driver locomotive, and four parallel tracks in the vignette. Color, red.

Four-cent, with the legend "Automobile," shown by a closed-coach automobile, with two men on the box, and a part of the United States Capitol at Washington as a background. Color, red brown.

Five-cent, with the legend "Bridge at Niagara Falls," shown by a view of the largest single-span steel bridge in the world, having two trolley-cars upon it, and a view of Niagara Falls appearing under, beyond, and up the river, with a graceful springing arch as a frame. Color, blue.

Eight-cent, with the legend "Canal locks at Sault de Ste. Marie," shown by the great ship-canal locks at Sault de Ste. Marie, Michigan, including immediate surroundings, given in a view from a higher point. Color, lilac.

Ten-cent, with the legend "Fast ocean navigation," shown by an American Line steamship,



GENERAL VIEW OF THE ESPLANADE.
PAN-AMERICAN EXPOSITION.

with two smokestacks and masts, presenting its starboard bow lapped by rising waves. Color, light brown.

The commemorative medal issued by the exposition authorities was one of unusual beauty, and was struck under the direction of the United States Treasury Department. The obverse showed a finely modeled figure of a man standing with his foot on the head of an eagle and his right hand uplifted, as if to indicate that even the animal world had become subservient to him. The reverse contained the outline map of the two Americas, and the legend, "Pan-American Exposition, Buffalo, New York, U. S., A., May 1, Nov. 1, M. D. C. D. I.," and a monogram of the letters "P. A. E."

The Pan-American Exposition flag was one of the new features introduced at this exposition. It was designed by Miss Adelaide J. Thorpe, was quadrangular, and divided into three sections. The triangle nearest the staff was blue, with the north star upon it in white. The triangle at the opposite corner was red, on which the four stars of the Southern Cross were set in white. The parallelogram between the triangles was white, on which a gold eagle was depicted, having over its head a rising sun, which is found on the flags of the Argentine Republic, Bolivia, Costa Rica, Peru, Uruguay, and the Greater Republic of Central America. The intertwined palm branch and pine, on which the feet of the eagle rested, expressed the union of North and South. A ribbon bearing the motto "P A X 1901" was interwoven between the palm branch and the pine. The purpose of the flag was to give expression of the policy of a great group of powerful and enlightened nations.

Opening Exercises.—The opening of the exposition was set for May 1, but the disagreeable weather that had prevailed during the spring, as well as the incomplete condition of the exposition at that time, led to the postponing of the formal opening until May 20. On May 1, however, direct telegraphic communication was established with President McKinley, who was in Memphis, Tenn., and at two o'clock, Buffalo time, he touched the electric button that started the machinery of the exposition, also transmitting his "congratulations to the citizens of Buffalo upon the auspicious opening of the Pan-American Exposition, so rich in blossom and ripe in expectations. May the hopes and ambitions of its promoters be realized to the fullest measure." Forty-five aerial bombs were fired, one in honor of each State of the Union, and the flags on all the buildings were unfolded to the breeze. Later in the afternoon of May 1 the Government Building was formally opened, and was declared to be the most complete of any exhibit ever presented to the people of the United States. The formal opening, which took place on May 20, began with a parade, under the command of Gen. S. M. Welch, which included several thousand troops, with four bands, after which were a hundred carriages with officials and guests, and then followed the picturesque representatives of the Midway, who marched from the City Hall to the Esplanade in front of the Temple of Music. The dedicatory exercises, which were held inside the hall, included an opening prayer by the Right Rev. C. H. Fowler, bishop of the Methodist Episcopal Church; an address by Conrad Diehl, mayor of Buffalo; a poem written for the occasion by Robert C. Rogers; an address by Theodore Roosevelt, Vice-President of the United States—in the course of which he said: "More and more we are learning that to love one's country above all others is in no way incompatible with respecting and wishing well to all others, and

that, as between man and man, so between nation and nation, there should live the great law of right. These are the goals toward which we strive, and let us at least earnestly endeavor to realize them here on this continent." In an address by Henry Cabot Lodge, United States senator from Massachusetts, who, after referring to the value of modern expositions as bringing about a better understanding between peoples widely removed, added, while discussing the relations of the United States with the other American republics: "We desire that you should regard the United States as your best friend. We seek no extension to the southward. We desire nothing that is yours. We ask only for your friendship, for your commerce, and for your good-will. We also earnestly hope that you will unite with us in the support of what we believe to be the true policy for America, both North and South. That policy is expressed in the Monroe doctrine, and carries with it the purpose of drawing close the bonds between the continents and extending the belief in the solidarity of American interests"; a poem written for the occasion by Frederic Almy; an address by Timothy Woodruff, Lieutenant-Governor of New York; and a benediction by the Right Rev. William D. Walker, Bishop of Western New York.

Mr. Milburn, who presided over the exercises, read telegrams of congratulation from the President of Argentina, the Governor-General of Canada, the President of Colombia, the President of the Dominican Republic, the President of Ecuador, the President of Haiti, the Governor of Jamaica, the Governor of Martinique, the President of Nicaragua, the President of Paraguay, the President of Peru, and the President of Uruguay. Mr. McKinley said: "I send you greetings from the shores of the Pacific, with fervent prayers for the benediction of heaven upon this beneficent enterprise, with sincere congratulations to all those whose energy and devotion have brought it to pass, and with heartfelt welcome to our guests from our sister republics, to whom we wish continued and abundant prosperity. May there be no cloud upon this grand festival of peace and commerce, no thought of rivalry except that generous competition in useful arts and industries which benefits all."

At the conclusion of the exercises in the Temple of Music there was a grand display of day fireworks on the Esplanade and about the Court of Fountains. There was first a salute of 125 aerial guns fired from steel mortars. At the same time 27 12-foot gas balloons, each lettered with the name of one of the Pan-American countries and carrying below the flag of its country, were released. Forty-five aerial rockets were fired, one for each State in the Union. There was also a magnificent display of Japanese daylight fireworks, Oriental kite displays, daylight bomb cloud-shells setting free American and Pan-American flags with souvenirs of dedication day, and finally a grand salute of 500 large gun cotton rockets. In the evening a display of fireworks from the shore of Park Lake and an illumination of the buildings and the tower terminated the festivities.

Juries and Awards.—In July and August a series of juries convened in Buffalo and examined the exhibits. Before the close of the exposition announcement was made that 3,193 awards were made, distributed as follows: Gold medals, 887; silver, 1,159; bronze, 1,147; and honorable mentions, 1,384. Distributed according to nationalities, the United States came first, having received 601 gold medals, 663 silver, 562 bronze, and

470 honorable mentions. Mexico followed with 78 gold medals, 151 silver, and 139 bronze; Chile, 51 gold medals, 98 silver, and 110 bronze; Cuba, 38 gold medals, 55 silver, and 57 bronze; Argentina, 19 gold medals, 21 silver, and 25 bronze; Ecuador, 22 gold medals, 39 silver, and 55 bronze; Canada, 13 gold medals, 23 silver, and 17 bronze; Honduras, 11 gold medals, 9 silver, and 11 bronze; and Porto Rico, 11 gold medals, 14 silver, and 45 bronze.

Closing Exercises.—The formal closing exercises began in the Temple of Music on Nov. 2, at 11 o'clock p.m. At the close of the concert by the Herbert Orchestra, the organ played Auld Lang Syne, followed by the familiar strains of America, at the beginning of which the audience rose in a body and sang the well-known words. President Milburn then made a brief address, in which he said: "There will be, but a few hours hence, only a memory of this exposition. We started out to cement together all the countries of America and to end the nineteenth century and begin the twentieth century by a binding of the relations of the free peoples of North, Central, and South America, and I feel that this exposition goes down in history as the greatest social and political triumph by having brought those people closer together and having made them better known to each other." When he had finished speaking the visitors gathered in the Court of Fountains, and the arrival of the exposition officials was announced by a trumpet, which sounded far down the court. "Attention" was blown by eight strong-lunged trumpeters, stationed on the top of the Electric Tower, at 11:59. Exactly at midnight, "taps" were sounded to the waiting throng. As the last note died away, the lights gleamed with their accustomed brilliance, and then gradually they melted into faint tiny points of fire. For the last time the spark outlines of the buildings wavered for a moment, and then went out. The big search-light was turned down on the scene for an instant, and then it passed into darkness. The switch by means of which the electric lights were operated was turned off, the cable that supplied the power to the lighting

system from Niagara Falls was cut, and the Pan-American Exposition came to an end.

Attendance.—The total attendance at the exposition was 8,120,048, which included passes. The unfavorable weather immediately prior to the beginning of the exposition naturally resulted in a diminution of attendance, and, together with its uncompleted condition, prevented the anticipated influx of visitors. And again, subsequent to the assassination of President McKinley the attendance dwindled sadly.

Auditor's Report.—The total receipts from admissions were \$2,467,066.88, and the receipts from concessions were \$3,011,522.76. The auditor's report on the financial transactions of the exposition to, and the condition at the close of business, Nov. 2, 1901, shows that the payments made for construction—buildings, grounds, streets, sewers, piping, wiring, fountains, etc.—real estate, and office furniture and fixtures, amounted to \$5,215,259; and that the payments made for operating expenses amounted to \$2,171,836; total payments, \$7,387,095. There were outstanding unpaid construction expenses amounting to \$389,311, unpaid operating expenses amounting to \$113,685, and unpaid miscellaneous expenses amounting to \$49,525. The first-mortgage bonds unpaid were \$174,979, and unpaid second-mortgage bonds \$500,000. The contractors who put up the buildings will lose a large amount, as the company has no assets with which to pay their claims.

Literature.—This exposition, more than any of its predecessors, advertised its existence by means of a series of exceedingly beautiful pamphlets. The railroads likewise issued folders filled with attractive illustrations that described the routes to Buffalo, as well as the most interesting features of the grounds. An official catalogue and guide, and a Pan-American Art Handbook, could be purchased on the grounds. The monthly magazines devoted much space to the history of the exposition, and the World's Work for August and the Cosmopolitan for September devoted their entire issues to the various phases of the exposition, with descriptions by specialists.

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FARMERS' NATIONAL CONGRESS. The twenty-first annual meeting of the Farmers' National Congress opened in the Auditorium, Sioux Falls, S. Dak., Oct. 1, 1901. Addresses of welcome were made by Lieut.-Gov. Snow in behalf of South Dakota, and H. H. Keith in behalf of Sioux Falls, and responses were made by Hon. J. Sterling Morton, of Nebraska, the Hon. William D. Hoard, of Wisconsin, and Col. Benjamin F. Clayton, of Iowa. In his address Mr. Morton said: "On the farm nothing can ever arise to threaten American institutions. It is in the cities, where many men are homeless, that riots and anarchy are found. On the farms the people love their homes, and there can never be a riot where the people love the home, which is a part of the nation. Loving the part, they love all."

In the opening session the band played a medley of airs, and when it began the national air the audience arose to its feet, cheering. This manifestation foretold the patriotic spirit and high motives that characterized the meeting throughout.

At the conclusion of the responses to the addresses of welcome, the president of the congress, Mr. R. G. F. Candage, of Massachusetts, read his annual address. He sketched the development of

agriculture, and called attention to the fact that "this vast area of our country, with its nearly 80,000,000 of stirring and active people, produces more than enough for the needs of that mighty host from its cultivated acres, and had a surplus of the products of the farm, factory, forest, shop, and mine, in 1900, valued at nearly \$1,500,000,000." The congress later took the action suggested by the need of foreign markets for our products.

A committee on resolutions was appointed.

Prof. John Hamilton, of the Board of Agriculture of Pennsylvania, read a paper on The State Department of Agriculture: Its Mission and Organization. He recommended the general plan followed by the national Department of Agriculture as one that offers the most advantages. The work should be divided into sections, and he recommended these divisions: Farmers' institutes, live stock, horticulture, forestry, pure food, dairying and dairy-products, entomology, public roads, market and flower gardening, fertilizers and cattle-foods inspection, chemistry, meteorology, publications, statistics, and markets.

At the evening session Francis B. Thurber, of New York, read a paper on What shall we do with Our Surplus Products? This contained a



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strong plea for ship subsidies, to which the congress did not make a favorable response, however. Mr. Thurber said: "It is an anomaly that we should be willing to spend \$40,000,000 a year on a navy, and balk at spending \$10,000,000 a year in building up a merchant marine that will make our navy effective. The nation demands an isthmian canal, but what is the use of building a canal unless we have a merchant marine to use it?" He also approved the suggestion of the Hon. O. P. Austin that a floating exposition should be organized, using some of the army transports, the services of which will not be longer required, and with the cooperation of our manufacturers show samples of our wares in the principal ports of the world.

In the discussion of this paper, Hon. William D. Hoard, of Wisconsin, said he believed the danger from trusts had been exaggerated by the public, and that, while trusts should probably be regulated, the people had less to fear from the trusts than the owners of trust stocks had to fear from depreciation of those stocks. He pointed out the effect that enhanced price has in lessening consumption.

On the second day a very interesting paper on *The Rice Industry: Its Relation to Other Industries*, prepared by Mr. J. B. Foley, of Louisiana, one of the largest rice-planters of that State, was read by Col. Edward W. Wickey, of Mississippi, who made valuable and interesting comments. Mr. Foley pointed out that the rice district of southwest Louisiana is a beautiful level prairie, marked by winding rivers and bayous. The rice area has been circumscribed only by the ability to irrigate. The rice industry of that section has been developed largely by Northern people and capital. No other equal agricultural area in the United States compares with the rice district as a consumer of the products of other sections of the country. It is a one-crop region. The rice belt buys very nearly all its food for man and beast. It spends every year many thousands of dollars for machinery, which comes from the North. The rice industry of southwest Louisiana is one of the "infant industries," and while the home product at present supplies only about three-fifths of the home demand, the rice-growers of the United States will soon need all our home market. The high price of rice to the consumer is due to the cost of retailing it. For a rice that the mills get for four cents a pound, the consumer pays eight to ten cents a pound. If grocers would sell rice on the margin on which they sell sugar, it would be a cheap food. Some rice-growers make large profits, and some none at all.

This was followed by an able paper on *The Nicaragua Canal: Its Importance to Farmers*, by the Hon. Harvie Jordan, of Georgia. He quoted Prof. Emory R. Johnson to the effect that the result of the building of the canal on railway rates would be offset by the expansion of the whole traffic handled. He said: "The time is not far distant when the rapid development of our industries, the expansion of trade both at home and abroad, will require not alone the services of our present railways and the canal, but we shall need more railways and ships to meet the requirements of our country. The building of this canal is a great national necessity. Its construction would change the geographical position of our commerce on the high seas. We should be brought into direct trade relations with the Asiatic nations, whose 500,000,000 people stand ready and willing to buy our cotton, grain, meat, and other commodities. Millions of tons of freight from the West and the South would soon

find new markets at a minimum cost of water rates for freight, which would leave to the producer and manufacturer a better margin of profit on all commodities intended for export.

The afternoon session was devoted to a discussion of oleomargarine and other butter substitutes and proposed legislation affecting them. The discussion was opened by an exhaustive and carefully prepared paper by Charles Y. Knight, of Illinois, secretary of the National Dairy Union. He asserted that oleomargarine is a fraud wherever sold, and that its fraud is admitted by its makers; that only 50 cents' worth of fat is used in the manufacture of oleomargarine from each head of cattle killed, and that only 1 per cent. of the cottonseed-oil product is used in the manufacture of oleomargarine; that the people themselves do not demand oleomargarine, do not want it, and that it can be sold to them in any considerable quantity only through deception; that not all the oils used in its manufacture are made from clean fats; that it is not the equal of butter in digestibility or nutritiousness, and is positively unwholesome; and that as coloring it in imitation of butter is done only to sell it as butter, such fraudulent coloring should be subjected to a prohibitive penalty.

Opposing views were advanced by the Hon. J. Sterling Morton, of Nebraska, ex-Secretary of Agriculture, in a very skilful argument. He interestingly told of the development of the manufacture of paper from a part of the corn-stalk. He exhibited samples of paper in various forms, from newspaper to paper board, made from a part of the corn-stalk previously wasted. He then asked if the manufacturers of paper from the materials formerly used should be allowed to compel by law the manufacturers of paper from corn-stalk fiber to color it in such manner that it could not compete with paper made from wood-pulp, etc., though the paper made from corn-stalk was just as good, and sold for a less price. He contended that compelling the manufacturers of paper from corn-stalk fiber to color their paper in such a way as to prevent its competition with other paper was a parallel to the legislation asked for by the dairymen, to compel the manufacturers of oleomargarine to color their product pink, or else subject it to a prohibitive tax. He also contended that the National Government had the constitutional right to tax only to raise revenue, etc., and not in order to prohibit the manufacture of a product.

His argument was vigorously combated by the Hon. William D. Hoard, of Wisconsin, president of the National Dairy Union. He contended that the basis of the traffic in oleomargarine is deception, that it is selling one product for another. The manufacturers of oleomargarine bought the merchants to violate the laws. "It is a question that strikes into the integrity of society," he said, "when men will go before Congress with the claims the oleomargarine men present." He pointed out the difference between coloring butter and oleomargarine—butter is colored to conform to the taste of the consumer, oleomargarine is colored to deceive the consumer.

At the evening session Prof. E. Benjamin Andrews, Chancellor of the University of Nebraska, spoke on *The Farmstead Beautiful*. "Scientific farming has now put it within the reach of nearly all to have good reading-matter, and to indulge in travel; and the telephone and the trolley-car have done much to add interest to life on the farm." Trees and hedges temper the climate and add to the beauty of the farm. "Have your home lot square, with lawn all around it. The beauty of a

lawn is when the whole expanse of green may be seen at a single glance, not cut up by flower-beds or trees. In the house have no carpets. No room is too good in your house for your own use. Don't live in the kitchen. That is vulgarizing. Have a few good pictures."

At the morning session of the third day Dr. J. W. Heston, president of South Dakota Agricultural College, read a paper on The Farmer's Opportunity, which was a plea for irrigating the arable lands of the semiarid region by the National Government. "Individual enterprise has done all it can. Of the \$6,000,000 spent on irrigation, \$5,000,000 were private funds. The States can not do it. Irrigation is not new; it is a demonstrated success. The irrigated land would have a value much in excess of the cost."

The discussion that followed this paper made it certain that a large majority of the congress was opposed to any irrigation enterprise by the National Government.

Other papers read were on Ancient American Forests, by John P. Brown, of Indiana; one by Prof. H. W. Campbell, of Kansas, in which he advocated, for the semiarid West, the shallow cultivation and fine-earth mulch that he has done so much to popularize among farmers, and that has proved to be valuable to conserve moisture in regions outside the semiarid belt; and a paper on Aspects of our Sheep Industry, prepared by Hon. J. R. Dodge, of Washington. He said: "The assertion that the pastoral resources and feeding capacity of the country are in danger of exhaustion is simply absurd. Our agriculture is still in a primitive condition. Even in some of our seaboard States there is more wild land than farm area, and much uncultivated land in farms. The competition of cotton with wool is legitimate, but the skilful mixture of cotton with wool for the fraudulent purpose of facilitating sales of the hybrid fabric as pure wool, is obviously reprehensible. The Dingley law was the salvation of both branches of the wool interests in one of the critical periods that threatened the destruction of both industries—the production and the manufacture of wool. That the present tariff is no bar to importation of clothing and combing wools is shown by the average imports for three years past of 33,777,894 pounds per annum. Our varied climates, soils, grasses and forage plants, and pastoral experience can produce almost any class of wool that the caprice of fashion or the competition of textile manufacture may require."

At the evening session Mrs. Bertha Dahl Laws, of Minnesota, gave an interesting lecture on The American Girl in the Home. Her main thought was that home-making is and should be the highest ambition of the American girl. The American girl of to-day is the home-maker of the future. All mothers should see that their daughters are taught the duties of wifehood and motherhood. "Domestic economy should be taught in the public schools. Housekeeping and home-making is a most delightful occupation if one will only make it so. It is drudgery only to those that make it drudgery. We should make full use of light, water, air, and rest. We do not rest enough."

She was followed by Mr. M. F. Greeley, editor of the Dakota Farmer, in a strong plea to young men to endeavor to own land, though only a little. Land ownership gave an independence and feeling of responsibility that nothing else did. Land was becoming scarce, and would be a good investment from the money standpoint. Land ownership made good citizenship. The farm home was self-sustaining. The city home required a constant ex-

penditure. Too often the farm was not credited with the supplies it furnished the family. The girl that could prepare a good meal and could preside at the table with grace, and was a good housekeeper, was not lacking in education, might be better educated than the graduate of a college.

Officers were elected to serve for two years, as follows: President, Hon. George L. Flanders, of Albany, N. Y.; first vice-president, Hon. Harvie Jordan, of Monticello, Ga.; second vice-president, Col. B. Cameron, of Stagville, N. C.; secretary, John M. Stahl, of Chicago, Ill.; first assistant secretary, E. A. Callahan, of Albany, N. Y.; second assistant secretary,

Hon. George M. Whitaker, of Boston, Mass.; third assistant secretary, Joel M. Roberts, of Waco, Neb.; treasurer, Hon. J. H. Reynolds, of Adrian, Mich.; executive committee, the president and secretary ex-officio, and Col. Benjamin F. Clayton, of Indianola, Ia.; Col. E. W. Wickey, of Ocean Springs, Miss.; and Mr. W. L. Ames, of Oregon, Wis.

The State vice-presidents are: Alabama, George I. Motz; Arkansas, R. R. Dinwiddie; California, D. L. Cantlin; Colorado, Farwell Bemis; Connecticut, J. H. Hale; Delaware, J. A. Whitaker; Florida, T. J. Appleyard; Georgia, Dudley M. Hughes; Idaho, W. H. Buchanan; Illinois, R. H. Kirby; Indiana, J. B. Brown; Iowa, Samuel Jones; Kansas, Thomas M. Potter; Kentucky, J. H. Alderson; Louisiana, John Dymond; Maine, Obadiah Gardner; Maryland, William M. Amos; Massachusetts, N. Sagendorph; Michigan, Bronson Turner; Minnesota, John Cooper; Mississippi, A. L. Hutchinson; Montana, R. N. Sutherland; Missouri, Charles K. Greene; Nebraska, L. L. Young; Nevada, S. P. Davis; New Hampshire, Joseph D. Roberts; New Jersey, Franklin Dye; New Mexico, Arthur Goetz; New York, H. S. Ambler; North Carolina, John S. Cuninghame; North Dakota, S. M. Edwards; Ohio, D. L. Pope; Oklahoma, H. A. Todd; Oregon, Richard Baird; Pennsylvania, George G. Hutchinson; Rhode Island, Henry L. Greene; South Dakota, John S. Armstrong; Tennessee, J. K. P. Wallace; Texas, W. A. Rhea; Vermont, D. H. Morse; Virginia, Henry E. Alvord; West Virginia, D. Buchanan; Wisconsin, E. M. Anderson; Wyoming, E. L. Ramsey.

The following resolutions were adopted:

"Whereas, The rapid expansion of agricultural production, manufacturing industries, and commercial trade generally in the United States is growing beyond the demands of present markets, both at home and abroad; and

"Whereas, It is deemed of vital importance to cultivate better trade relations with the Central and South American republics and the Asiatic nations; and

"Whereas, The Government of the United States is committed to the enforcement, and will



GEORGE L. FLANDERS,
PRESIDENT OF FARMERS' NATIONAL
CONGRESS.



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NIGHT ILLUMINATION OF THE HORTICULTURE BUILDING.
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enforce and protect the integrity of the Monroe doctrine; therefore be it

"Resolved, by the Farmers' National Congress, that the early construction of the Nicaragua Canal is deemed highly essential for meeting the objects and purposes above set forth; and we hereby earnestly petition the Congress of the United States to take immediate steps toward the opening of the said isthmian canal, that the same may be opened to the commerce of the world, on the high seas; and that it may and shall be built and controlled by the Federal Government of the United States without the aid of any foreign nation, and without any international complications.

"Resolved, That the Farmers' National Congress in session assembled at Sioux Falls, S. Dak., hereby respectfully urges the Congress of the United States to enact, at the earliest possible moment, a law providing, first, that whenever any dairy or other food products are taken from any State or Territory into another State or Territory, the said products shall become subject to the laws of such State or Territory to the same extent and in the same manner as though they had been produced or manufactured therein, and shall not be exempt therefrom by the fact that they are in the original importer's package; second, that all oleomargarine, butterine, suine, and kindred products manufactured or produced in imitation or semblance of butter, the product of the dairy, shall be taxed ten cents per pound; third, that on all such products manufactured or produced not in imitation or semblance of butter, the product of the dairy, the present tax of two cents per pound shall be reduced to one quarter of a cent per pound.

"Resolved, That the Farmers' National Congress in session assembled at Sioux Falls, S. Dak., respectfully represents to the Congress of the United States that a great wrong is being committed against the consuming public and against a great producing interest whereby the former are liable to be injured in their health and the latter in their reputation for integrity, and to the great financial injury of both, in the fact that large quantities of inferior and adulterated products are being produced in some of the States of the Union and are branded or labeled as goods of a superior quality and as produced or manufactured in other States, usually counterfeiting or appropriating brands of known standing and reputation; and these goods are largely used in interstate commerce. And therefore this congress respectfully urges the Congress of the United States to pass an act, and provide for its enforcement, to the end that no dairy or other food products used in interstate commerce be falsely branded or labeled as to the State or Territory in which they are manufactured or produced.

"Resolved, That this Farmers' National Congress regards with especial satisfaction the efforts that are being put forth by the States of Wisconsin and New York, and other States, to introduce the teaching of the elements of agriculture in the common schools; believing, as we do, that this system of education is greatly needed in the formation of the true spirit and purpose of agriculture.

"Resolved, That we earnestly urge upon every State in this Union the adoption of like methods, and we further recommend that the work of teaching the elements of agriculture be made a part of the regular educational system of the State.

"Whereas, The farmer is necessarily removed from large centers of population and trade, and therefore the mail-service affords his best means

of communication with the outside world for both commercial and intellectual purposes; and

"Whereas, Any increase of the postal facilities of the country adds to his convenience and comforts; therefore,

"Resolved, That the United States Congress be requested to extend rural free mail delivery as fast as practicable, to provide a simple and practical postal currency for the safe transfer of national currency, and to establish a parcels post.

"Whereas, The Post-Office Department has recently made a ruling designed to remedy the abuses in the carriage of second-class mail-matter, which will save many millions of dollars per year, which will be available for the extension of rural free delivery and other improvements in the mail-service which have been retarded by the absorption of the department's revenues in such abuses;

"Resolved, That the Farmers' National Congress hereby indorses the action of the Post-Office Department, and commends the Postmaster-General for his efforts to defend alike the public interest and all legitimate publications within the meaning of the postal law.

"Resolved, That the Farmers' National Congress heartily indorses the views of the late President McKinley favoring reciprocal trade agreement with foreign nations.

"Resolved, That true reciprocity involves making concessions on our part as well as receiving concessions from foreign nations.

"Resolved, That the Farmers' National Congress, in annual meeting assembled, expresses its horror at the recent assassination of President McKinley, and its sympathy with his family.

"Resolved, That we further desire to put on record our detestation of the doctrines which lead up to such deeds, and of all those who preach or in any manner encourage them.

"Resolved, That the Legislatures of the various States should enact laws which will tend to prevent such occurrences in the future.

"Whereas, Appropriations by the National Government for improvement of the navigation of our coasts, harbors, and rivers are recognized as a public benefit and a wise expenditure of the public money; and

"Whereas, The Congress of the United States has passed no general river and harbor bill for the past three years; therefore be it

"Resolved, That the Farmers' National Congress urges the Congress of the United States to make liberal appropriations for all meritorious, important, and needed improvements of rivers and harbors already begun, in the interests of more extended commerce and as safeguards of life and property.

"Resolved, That the Farmers' National Congress respectfully calls the attention of the Congress of the United States to the unsatisfactory condition that exists concerning the public domain, now at the mercy of ranchmen, and which it is claimed is being denuded and rendered infertile by the system of pasturage now pursued.

"Resolved, That the Farmers' National Congress respectfully requests the Congress of the United States speedily to make investigations into the facts, and if these lands are being injured and the rights of actual settlers invaded, to adopt such measures as may in its judgment seem wise, to the end that these lands may be preserved for the final use and ownership of actual settlers.

"Resolved, That the members of the Farmers' National Congress deeply regret that the Massachusetts State authorities have discontinued their war upon that most dangerous insect, the gipsy-

moth, against which there is no protection except absolute extermination.

Resolved, That we regard the prevalence of this insect in Massachusetts as a menace to the entire country, and feel that we may properly urge the authorities of that State to destroy it utterly, on the same principle that justifies the public in expecting every householder to extinguish a conflagration on his own premises."

An amendment to the constitution, providing for an increase in the number of delegates that constitute the congress, was submitted by W. L. Ames, of Wisconsin. Under the constitution the proposed amendment lies on the table until the next annual meeting, when it will be acted on. At present the number of regular delegates appointed by the governors of the various States, which constitutes very nearly all the voting membership of the congress, is limited to one from each congressional district and two from each State at large. The proposed amendment will make it possible for the governors to appoint as many as ten delegates from each congressional district.

The attendance at this meeting was not so large as it has been at some previous meetings. Every delegate present was a farmer, and the proceedings were characterized throughout by unusual earnestness, carefulness, and patriotic feeling. The sentiment of the congress was that the next meeting-place, which is to be selected by the executive committee, should be Richmond, Va., or some point in North Carolina.

FEDERATION OF CHURCHES. A conference of persons interested in federated action among churches and Christian workers met in Philadelphia, Pa., Feb. 5 and 6, under the call of the National Committee, and was attended by representatives of about ten denominations from New England and the Middle States, including Ohio. Accounts were given of an interdenominational commission in Maine representing the five leading denominations of the State; of the promotion of cooperation by the Evangelical Alliance in Boston, Philadelphia, Pittsburg, Erie, Pa., and other places; of the federations established in Hartford and New Haven, Conn., New York, Jersey City, N. J., Cleveland, Ohio, and Syracuse, N. Y.; of the organization of a new federation in Chicago; and of the work of the State federation in New York. A National Federation of Christian Churches and Workers was formed, of which Mr. J. Cleveland Cady, of New York, was chosen president, and for which an executive board of 15 clergymen and 15 laymen was constituted.

The federation in New York city performs a part of the work of a home missionary society, for the purpose of which the city is systematically divided into districts corresponding with the Assembly districts, each of which is represented by an auxiliary cooperating with the federation in making a canvass of its territory in order to ascertain the religious relations and social, economical, and civic conditions of the people. The plan in operation calls for an annual canvass of one-fifth of the enlarged city. A review of the work accomplished by the federation since its formation in 1896 was published in the periodical Federation for January, 1901, by the executive secretary, the Rev. Walter Laidlaw. One of the results of it was the establishment of several denominational enterprises through interdenominational induction and suggestion. Among the enterprises enumerated as thus started were 3 Protestant Episcopal, 2 Lutheran, and 1 Baptist. In a sociological canvass much attention had been given to facts of importance on the problem of

tenement-houses, and one of the addresses made at the annual meeting, Jan. 29, was on Federation from the Tenement-House Improvement Standpoint, by Dr. E. R. L. Gould. The expenses of the work of the federation were, in 1896, \$2,502; in 1897, \$4,421; in 1898, \$4,820; in 1899, \$6,874; in all, including odd cents, \$18,618. The receipts during the same time were \$18,418. The literature of the organization had been requested in 26 States of the American Union, in places in Canada, in Glasgow, Scotland, and in London. It was represented at this meeting that 110 places in the United States had become interested in the plan; that State federations had been organized in Maine, Connecticut, Vermont, Pennsylvania, and New York, and the formation of several city federations and the national federation was mentioned.

In 1901 the canvasses of Greater New York had resulted in turning over to church care more than 20,000 unchurched families, enlisting the cooperation of more than 20 religious societies, and promoting several benevolences and material improvements.

A State board of federation has been formed in Massachusetts.

The second annual Conference of the Federation of Churches and Christian Workers of the State of New York was held in Rochester, Nov. 12 and 13, and was attended by representatives of the Methodist, Baptist, Presbyterian, Protestant Episcopal, Congregational, Lutheran, Reformed, Unitarian, and Universalist Churches, and a Jewish rabbi. Reports were made of what had been accomplished in the different towns and cities; work that took the various shapes of repression of civic unrighteousness, restraint of the saloon, of Sabbath desecration, and of the degradation of the young; and evangelistic labors. Thorough cooperation had been effected, and all the enterprises engaged in had been carried on in harmony and with practical efficiency. Several addresses were made, bearing upon the purposes of the federation and the fields of work open to it.

At a meeting of the Executive Committee of the proposed Federation of Evangelical Churches and Christian Workers in Ohio, held at Columbus, June 3, Dr. E. B. Sanford reported that in his tour of the State as representative of the committee he had found great interest manifested in the movement, and that federations were formed or being formed in Cleveland, Cincinnati, Springfield, Columbus, Xenia, Chillicothe, Toledo, Findlay, Lima, Mansfield, Oberlin, Marietta, and Steubenville. A convention for perfecting the full State organization was appointed, to be held at Columbus, Dec. 3, each local federation to be represented by two delegates.

National Council (English) of Evangelical Free Churches.—The Free Church Year-Book for 1901 gives statistics showing that the Evangelical Free Churches in England making returns report 1,910,302 communicants, 384,632 teachers and 3,283,600 pupils in Sunday-schools, 9,114 ministers at work, 50,919 local preachers, and 8,100,652 sittings. Tables in the same book represent that the Anglican Church provides 6,979,150 sittings and has 1,941,760 communicants and 207,539 teachers and 2,865,291 pupils in Sunday-schools; while the Official Year-Book of the Church of England gives the number of sittings provided by Anglican churches as 7,000,375.

The eighth annual meeting of the (English) National Council of the Evangelical Free Churches was held at Cardiff, Wales, March 12 and 13. The Rev. C. H. Kelly, retiring president, spoke, in the opening sermon, on the reality and value of

personal experience in the Christian life. The president for the present meeting, the Rev. J. G. Greenhough, in his address on the Unifying Forces of the Times, defined the patriotism of the Federation of Free Churches, and said that it would watch with the utmost vigilance every attempt that might be made to tamper with the Protestant succession to the Crown. While some of them might be willing to have the language of a certain oath modified, they would resist with united force every proposal to abrogate or change the substance. The report of the council showed that 87 new councils had been organized during the year as against 44 in the previous year, and that there were now about 700 councils. Three new distinct federations had been formed, and another was expected to be formed shortly. Some of the federations had displayed notable originality and vigor in starting new work. The Metropolitan Federation included 60 councils. Federation was represented as making great progress abroad—in America, Australia, New Zealand, and South Africa. The formation of a Free Church Council in Berlin, Prussia, was mentioned. The idea of federation was being discussed in Scotland. Half of the volume of the report was devoted to records of the simultaneous mission which had been held in London, the larger cities, and in other towns and parts of the kingdom. A resolution of "most hearty congratulations" upon the union of the United Presbyterian and Free Churches in Scotland was adopted. A resolution respecting the South African War, which was unanimously carried, declared that while grave differences of opinion existed among Christian citizens as to the origin and conduct of the war, this disagreement afforded no reason why the council "should not express with one voice its distress that Christian nations could find no way of settling differences except the cruel arbitrament of the sword"; expressed pain at the continuance of the war and all the horrors attending it; and avowed a passionate longing for a peace which, being wise and righteous, shall be enduring. The resolution further called upon all the local councils and all the Free Churches to pray to Almighty God to lead events and the dispositions of men to that issue from present difficulties and perplexities "which shall be for the good of all races in South Africa" and of the British Empire. A resolution was passed desiring local councils to educate public opinion with a view to the early enactment of the recommendations of Lord Peel's report on the licensing laws. The council sermon was preached by the Rev. Dr. Joseph Parker, on the subject of A Learned Ministry. Papers were read and addresses made on different aspects of Sunday-school work (The Old Testament in the Sunday-School, Are Sunday-Schools Declining? etc.); The Relation of the Free Church Council to Public Institutions; Is Our Preaching as Effective as it Ought to Be?; The Rest Day; Christian Liberty; and Attractiveness in Church Services. Five former French priests were welcomed to the meeting as representatives of a body of their order who had withdrawn from the Roman Catholic Church.

Local councils were urged to carry out during the year the Free Church Girls' Guild Scheme, which had been adopted by the National Council, and it was suggested that each council should form a special committee acting in association with the Central Bureau to be opened in London.

The special committee of the National Council appointed to deal with the Free Church Girls' Guild organized April 26, and decided to make the formation of guilds throughout the country a chief work of the council for the year.

The Simultaneous Mission. The holding of a simultaneous mission in all parts of London was suggested to the National Council of the Evangelical Free Churches several years ago, and the council of 1900 decided to hold a series of services, occupying as many churches, temples, and halls throughout the metropolis as the audiences attracted should require, from January to Feb. 4; and to follow this movement after a short interval, with similar series of services in the provincial cities and towns; and finally to hold missions in the English and Welsh villages, March 2 to 6. The missionaries who were expected to engage in all these meetings included the most prominent preachers in all the denominations represented in the council. The program of the meetings included a systematic house-to-house visitation, from which no house was excluded, to be made first primarily to non-churchgoers, the rule being that "the visitation must never be used for proselyting purposes," and to induce such to attend the meetings. Great care was taken in the organization of the meetings and in the selection of those who led and assisted at them, so as to secure the most acceptable and efficient service. The meetings included, besides the principal service in the evening of each day, Bible readings or addresses, afternoon meetings for Christians, dinner-hour meetings for business men and in factories, special services for shop assistants on their early-closing day, early morning meetings for men and women on their way to work, and meetings late at night for cabmen, omnibus and tramway men, railway men, and other special classes. The meetings were attended by daily increasing and crowded audiences of hearers of all social classes, even till the day of closing them, while the interest was still rising. The second series of meetings, in the larger towns and cities, were conducted on a similar plan with those in the metropolis, were engaged in to a considerable extent by those who had led in the Metropolitan meetings aiding the local ministers, and were marked by similar features and like results. Among the missions of which special reports were published were those at Manchester, Liverpool, Leeds, Bradford, Cardiff—where the publicans closed their houses for two hours to allow their clerks and hands to attend the meetings—Plymouth and Devonport, Brighton, Bristol, Newcastle-on-Tyne, Halifax, Portsmouth, Swindon, Blackburn, Crewe, Cambridge, Sheffield, York, etc. The most marked results of the missions were found to consist in the religious awakening produced through them in the churches that participated in them. The projectors of them were disappointed in that they failed to reach the non-churchgoing classes to the extent which they had hoped and anticipated. These people would not come to the churches, but there was less difficulty in drawing them to the meetings held in theaters and halls; but the most satisfactory results were obtained among them when the meetings went to such places. Thus the dinner-hour services held at the great works in certain cities were very successful. Large audiences of men, while their nooning was not interrupted, listened attentively to the addresses and joined heartily in the hymns; and in some cases the missionaries were pressed to come again. The results of the house-to-house visitations were likewise encouraging, and the meetings held for business men were regarded as one of the most promising features of the mission. In all cases the time allotted to the prosecution of the missions was found to be too short, and the hour of closing the mission at the end of the appointed ten days found the public interest still rising, and

prospect of producing wider and more enduring effects still growing brighter. An announcement was made at the annual meeting of the Free Church Council in March, on the authority of the committee, that a great simultaneous mission would be carried out in the early weeks of 1903 in the theaters and music-halls, to reach those who could not be induced to attend meetings in regular places of worship.

The Presbyterian General Assembly of New South Wales in May adopted a motion of the Rev. Dr. Clouston, to be sent for consideration by the General Assembly of Australia, calling for the appointment of "an influential committee to devise a scheme for the federation of as many as possible of the Protestant churches of Australia, with power to confer with the representatives of other churches, so as to promote closer fellowship and organized cooperation, with a view to the ultimate formation of one grand church of Australia."

An Evangelical Union has been formed by federation of the several missionary organizations working in the Philippine Islands, for the purpose of securing comity and effectiveness in their operations.

FINANCIAL REVIEW OF 1901. There was almost an entire absence of political tension in Europe during the year. The only incident of a disturbing character was the despatch, early in November, of a French fleet to Turkish waters for the purpose of the enforcement by France of demands upon Turkey for the settlement of claims of French citizens, and for the exaction of guarantees of future protection. The fleet occupied the island of Mitylene Nov. 5, and though Turkey protested to the other powers against the aggressive movement, there was no active interference by these powers. Turkey thereupon promptly complied with the demands of France, the French fleet withdrew, and the incident was closed. The South African War developed into a guerrilla contest which required the maintenance of a large British force for the protection of lines of communication, and the entire pacification of the territory seemed likely at the end of the year to be somewhat remote. The British Government issued in April a loan for £60,000,000 consols for war purposes, making the total of such appropriations £152,069,000 since the war began in October, 1899, and it was regarded at the end of the current year as probable that another loan of about £100,000,000 would be required. There was more or less severe industrial depression in Germany, Belgium, and Russia during the year which at intervals indirectly resulted in bank failures, the effect of which, however, was localized. In consequence of such disturbances in Germany, French bankers withdrew large amounts of money which had been invested in that country, temporarily placing it in England, and it was estimated in October that not far from \$400,000,000 of French investments, which began to be made in 1899, were in the above-named month held by French bankers in the form of consols, exchange and bank bills. Toward the end of October some considerable amounts of these investments were withdrawn, causing a movement of gold from London to Paris and an advance in the Bank of England discount rate. The situation was relieved in November through exports of gold hence to Paris.

The conferences between the representatives of the powers and the Chinese Government resulted in the termination of the situation created by the disorders in the summer of 1900, and the final protocol was signed at Peking, Sept. 7, by the

plenipotentiaries on the part of the powers and by those representing the Chinese Government. By an imperial edict of June 9, Prince Chun was appointed ambassador of the Emperor to convey to the Emperor of Germany the expression of the regrets of the Chinese Emperor and of the Chinese Government for the assassination of Baron von Ketteler, German minister. Imperial edicts inflicted punishments on the principal authors of the outrages and crimes committed against the foreign governments and their nationals. In order to make reparation for the assassination of Mr. Sujiyama, chancellor of the Japanese legation, Na-Tung, vice-president of the Board of Finances, was directed to convey to the Emperor of Japan the expression of the regrets of the Emperor of China and of his Government. By imperial edict of May 29 the indemnity to the powers for the outrages in the previous year was fixed at 450,000,000 haikwan taels (\$333,900,000), which sum represents the total amount of the indemnities for states, companies, or societies, private individuals, and Chinese converts. These 450,000,000 taels constitute a gold debt calculated at the rate of the haikwan tael to the gold currency of each country as follow: The tael equals 3.055 marks; 3.595 Austro-Hungarian crowns; 0.742 United States dollar; 3.750 francs; 3 shillings British sterling; 1.407 Japanese yen; 1.796 Netherlands florin; and 1.412 Russian gold ruble (17.424 dolias fine). The above-noted sum in gold, it is decreed, shall bear interest at the rate of 4 per cent. per annum, and the capital shall be reimbursed by China in thirty-nine years. Capital and interest shall be payable in gold, or at the rates of exchange corresponding to the dates at which the different payments fall due. The amortization shall begin Jan. 1, 1902, and shall end at the close of 1940. The amortizations are payable annually, the first payment being made Jan. 1, 1903. Interest shall run from July 1, 1901, but the Chinese Government shall have the right to pay off, within a term of three years, beginning January, 1902, the arrears of the first six months ending Dec. 31, 1901, on condition, however, that it pays compound interest at the rate of 4 per cent. per annum on the sums the payments of which shall have been thus deferred. Interest shall be payable semiannually, the first payment to be made July 1, 1902. Service of the debt shall take place at Shanghai. Each power shall be represented by a delegate to a commission of bankers, authorized to receive the amount of interest and amortization which shall be paid to it by the Chinese authorities designated for that purpose, to divide such sums among the interested parties, and to give a receipt for the same. The Chinese Government shall deliver to the *doren* of the diplomatic corps at Peking a bond for the lump sum, which shall subsequently be converted into fractional bonds bearing the signatures of the delegates of the Chinese Government designated for that purpose. The proceeds of the revenues assigned to the payment of the bonds shall be paid monthly to the commission.

Among the other provisions of the protocol are those relating to the quarter in Peking occupied by the legations; the razing of the Taku forts; concessions for the occupation by the powers of twelve new ports; amendments to treaties of commerce and navigation; the improvement of the navigability of the Peiho and the Whangpoo, and the reformation of the Office of Foreign Affairs, Tsung-li-Yamen, into a ministry of Foreign Affairs, which will take precedence over the six other ministries of state. The international troops, with the exception of the legation guards,

completely evacuated Pekin Sept. 17, and withdrew from the province of Chihli Sept. 22, 1901.

The statistics of the foreign commerce of the United States indicated gradually decreasing exports of domestic merchandise and manufactures, especially after the first five months, when imports also fell off, though there was a recovery in the volume of both exports and imports in October. At the end of May the excess of exports over imports of merchandise was \$254,041,912, against \$224,964,501 at the corresponding date in the previous year. In June this excess was \$34,369,606, the smallest for any month since May, 1899, and the excess did not approach the maximum of the year, which was \$67,013,521, in January, until October, when it was \$64,228,601. Then, however, the exports were \$145,640,458, the largest since December, 1900, while the imports were \$81,411,857, the greatest on record. The total excess of exports over imports of merchandise for eleven months ending Nov. 30 was \$528,068,764, against \$571,603,735 to the corresponding date in 1900.

The following is a tabular survey of the economic conditions and results of eleven months of 1901 contrasted with those of the preceding year:

ECONOMIC CONDITIONS AND RESULTS.	1900.	1901.
Coin and currency in the United States, Nov. 30	\$2,429,210,235	\$2,539,351,896
Bankclearings in the United States (eleven months).....	\$76,720,199,255	\$108,245,078,115
Business failures (eleven months).....	\$109,913,257	\$118,358,793
Imports of merchandise (eleven months).....	\$760,452,507	\$800,424,607
Exports of merchandise (eleven months).....	\$1,332,056,242	\$1,328,493,371
Gross earnings 105 railroads (ten months).....	\$566,366,401	\$624,640,241
Wheat raised, bushels	640,797,779	708,250,849
Corn raised, bushels	2,105,102,516	1,359,970,000
Cotton raised, bales.....	9,930,270	9,674,000

Money.—The striking feature of the monetary situation this year was the almost continuous absorption by the Treasury of money from the banks through the fiscal operations of the Government, and this, too, notwithstanding the important reduction in internal-revenue taxes which became effective at the beginning of the fiscal year. The efforts of the Secretary of the Treasury to distribute the accumulating surplus revenues through purchases of unmatured bonds and the increase of deposits of public money in the depository banks were only partially effective. At the end of June the surplus revenues for six months of the year amounted to \$56,983,575, while the disbursements for bonds purchased under orders issued March 30 were only \$12,840,924. Even after the above-noted internal-revenue-tax reduction became effective, the surplus continued to increase, because of smaller expenditures, chiefly for the War Department, and the liberal distribution of money for unmatured bonds in September, amounting to \$18,894,385, only partially relieved the monetary tension. Hence it was deemed advisable in November to resume bond purchases after they had been suspended in the previous month. The evidence thus presented of the derangement to the monetary situation resulting from the Government's fiscal operations, and the inefficiency of such measures of relief as could be lawfully resorted to by the Treasury Department, caused a general popular demand for the further reduction in internal-revenue taxes, and recommendations to that end were submitted by the Secretary of the Treasury in his annual report to Congress. Almost concurrently with

the above-noted drain of money into the Treasury there was a movement of gold hence to Europe, which was partly for the payment of securities which had been returned hither in large volume. These exports of gold amounted at the end of November to \$47,907,629, which sum was partially offset by the receipt of \$11,842,362 from Australia. The movement of gold bullion from the Yukon fields was intermittent during the season, and the receipts at New York of assay-office checks representing the metal deposited at Pacific coast points contributed only moderately to the supplies in the banks at this center. The gross stock of gold in the United States Treasury was on Nov. 14 \$544,824,726, the largest on record.

The cash holdings of the New York associated banks were \$232,083,600 at the beginning of the year, reaching the maximum, \$269,011,100, Feb. 9. By July 6, influenced largely by absorptions by the Treasury and by gold exports, these holdings were reduced to \$246,532,800. There was a recovery to \$262,298,200 by Aug. 10, but by Sept. 14 they had fallen to \$239,968,800. Thereafter they increased, reflecting the large purchases of unmatured bonds in that and in the following month, and on Oct. 26 the cash was \$253,337,200. At the end of November the amount held was \$248,581,700. The loans of the banks at the beginning of the year were at the minimum \$803,989,600. Influenced largely by borrowings by combinations of capitalists who were negotiating important deals in railroads and industrial properties, there was an expansion in bank loans by March 9 to \$918,789,600, which was the highest on record. Gradual liquidation of some of these loans, caused in part by a reduction of bank reserves, resulted in a decrease to \$882,067,300 by April 20. There was a recovery to \$897,716,900 by May 11, followed by a sharp fall of \$38,844,300 in the next fortnight, reflecting the unsettling influences of the panic which resulted from the Northern Pacific corner. The loans fluctuated between \$902,755,300, June 22, and \$856,198,500, July 20, thereafter advancing to \$895,186,600, Aug. 31, declining to \$865,949,200, Sept. 14, and at the close of November they were \$876,169,200. The deposits of the banks were \$870,950,100, the minimum at the beginning of the year. The unprecedented maximum of \$1,012,514,000 was recorded March 2. There was an irregular fall to \$939,145,300 by July 20, followed by a recovery to \$968,149,600, Aug. 24, a decline to \$930,361,900, Sept. 21, and at the end of November the deposits were \$940,668,500. The surplus reserve of the banks Jan. 5 was \$14,346,075. There was a rapid rise to \$30,799,450, the maximum of the year, by Jan. 26, a fall to \$5,817,975 by April 6, a recovery to \$21,288,975, May 25, chiefly caused by the reduction in deposits, a decline to \$5,211,525, July 6. In the three succeeding weeks, or by July 27, there was an increase to \$23,128,575, due to a gain in cash and a decrease in deposits. This was followed by a decline to \$6,915,875, Sept. 7, an advance to \$17,483,175 by Oct. 12, reflecting the gain in cash resulting from bond purchases. An increase in deposits and a decrease in cash, however, caused a fall to \$8,689,925, Nov. 9, and at the close of November the surplus reserve was \$13,414,575.

The condition of the New York Clearing-House banks, the rates of interest, exchange, and silver, and the prices of United States bonds on Nov. 30, 1901, compared with the same items for the preceding two years, are given in the table on the next page.

The extremes for money on call at the New York Stock Exchange during the year were 75 per cent., which was recorded at the time of the

ITEMS.	Nov. 30, 1899.	Nov. 30, 1900.	Nov. 30, 1901.
NEW YORK CITY BANKS:			
Loans and discounts.....	\$682,159,800	\$804,489,100	\$876,169,200
Specie.....	145,314,500	166,895,000	176,186,500
Circulation.....	16,480,900	30,670,000	31,975,000
Net deposits.....	748,078,000	864,410,900	980,668,500
Legal tenders.....	50,214,700	60,073,400	72,395,200
Required reserve.....	187,019,500	216,102,725	235,167,125
Reserve held.....	195,556,200	226,968,400	248,581,700
Surplus reserve.....	\$8,536,700	\$10,865,675	\$13,414,575
MONEY, EXCHANGE, SILVER:			
Call loans.....	5 to 7	3 to 4½	4
Prime paper, 60 days.....	5½	4 to 4½	4½ to 5
Silver in London, per ounce.....	27½d.	29½d.	25½d.
Prime sterling, 60 days.....	\$4 81 to \$4 81½	\$4 81½ to \$4 82	\$4 84½ to \$4 84½
UNITED STATES BONDS:			
4s coupon, 1907.....	113½ bid	116 bid	112½ bid
4s coupon, 1925.....	132½ bid	138½ bid	139½ bid
3s coupon, 1908.....	109½ bid	110 bid	108½ bid
5s coupon, 1904.....	111½ bid	113½ bid	107½ bid
2s coupon, 1930.....	.....	105½ bid	108½ bid

May panic, and 1 per cent., to which the rate momentarily fell in July. At the beginning of January loans were made at 6 per cent., but, influenced by the distribution of interest and dividends, by liberal disbursements by the Treasury, and by a return movement of money from the interior, the rate fell to 1½ per cent. in the last week. In February easy monetary conditions prevailed, and loans were made at 2½ and at 1½ per cent. In March money was more active in consequence of Stock-Exchange requirements, and after loaning at 2 per cent. early in the month there was a rise to 7 per cent., due to the low bank reserves. In April an improvement in bank conditions caused a fall in the rate from 7 per cent. at the beginning to 2½ per cent. by the end of the month. In May, after the panicky rise to 75 per cent. on the 9th, due to the development of the Northern Pacific corner, there was a gradual fall to 2 per cent. In June bank reserves were again low; there was consequently a calling in of loans by these institutions, and after opening at 2½ per cent. the rate advanced to 5 per cent. by the 17th. The suspension of the Seventh National Bank on the 27th caused a temporary rise in the rate to 15 per cent. At the beginning of July unfavorable bank conditions, disquieting crop reports, threatened railroad complications, growing out of the Northern Pacific controversy, and industrial troubles had a disturbing effect upon the situation. The Stock Exchange had been ordered closed from the 3d until the following Monday, and some of the large lenders were unwilling to make call contracts extending over that period. Consequently rates rose to 25 per cent. on the 3d, and on the 8th loans were made at 8 per cent. The market was then relieved, however, through liberal offerings of money by private bankers, and, influenced by a liquidation in loans and large supplies of money from the interior and also from the Treasury, the situation improved, rates on call fell by July 16 to 1 per cent., and the average for the remainder of the month was 2½ per cent. In August bank reserves were weakened by absorptions of money by the Treasury through fiscal operations, and the market was active with loans at 4 per cent. and at 2 per cent. In September the tone was comparatively easy with transactions at 4½ per cent. and at 3 per cent., until the week immediately succeeding the shooting of President McKinley. The effect upon the money market of that event was, however, greatly minimized through the prompt and effective action which was taken by the Clearing-House Committee. The Stock Exchange was, early on the day following the tragedy, ordered

closed, and business on the London Stock Exchange was immediately suspended. Thus was the possibly disturbing factor of stock transactions eliminated from the situation. Those of the Clearing-House Committee who were in the city assembled at an early hour, and, after a brief conference with the presidents of the larger banks and with J. Pierpont Morgan, it was decided to unite all the resources of the banks, even to the extent of issuing clearing-house certificates, should such a course be necessary, for the purpose of sustaining the market through liberal loans of money, thereby averting a crisis. So entirely effective was this course that on the following Monday, when the Stock Exchange opened, no further action, beyond the formal securing of pledges from the banks of \$30,000,000 for use in the loan market, was necessary, and confidence was restored without the use of any of the money so pledged. At the request of the Clearing-House Committee the Secretary of the Treasury contributed to the relief of the money market by offering to buy any part of \$20,000,000 unmaturing bonds, including the 4s of 1925, which had hitherto not been included in such purchases, and he also directed that the deposits of public money in the depository banks be increased to an amount equal to the par value of the bonds held as security for such deposits. The above-noted measures, which were taken by the Clearing-House Committee for meeting any emergency that might arise, continued in effect, and no additional measures were made necessary on the news of the death of the President. The highest recorded rate for money during the week was 10 per cent. Influenced by liberal offerings of bonds to the Treasury, money declined in the following week to 1½ per cent., and the average for the remainder of the month was 3½ per cent. Normal monetary conditions prevailed in October, and loans were at 4½ and at 2½ per cent., the average falling from 3½ per cent. in the first week to 3¼ per cent. by the close. In November, though the tone was firmer, rates for money on call did not rise above 5 per cent., and the average was about 4½ per cent.

Time contracts were in good demand during the first four months of the year at from 3 per cent. for sixty days to 3½ and 4½ per cent. for four to six months. In May there was some urgency in the inquiry, which resulted in an advance to 4 to 6 per cent. for short time, while four to six months' contracts were obtainable at 4 to 5 per cent. In June rates were 3 to 3½ per cent. for thirty to ninety days, and from 4 to 4½ per cent. for four to six months. For the remainder of the year the demand was moderate, and rates were 4½

to 5 per cent. for all periods from sixty days to six months. Many of the larger borrowers of money on time, it may be noted, obtained foreign-exchange loans with which their requirements were satisfied without negotiating loans in the domestic market. Commercial paper was $3\frac{1}{2}$ to $4\frac{1}{2}$ per cent. for indorsements, and 4 to $4\frac{1}{2}$ per cent. for four to six months' single names until June, when $3\frac{3}{4}$ per cent. was the lowest rate, and thereafter quotations were from $4\frac{1}{2}$ to 5 per cent. for indorsements, and 5 to $5\frac{1}{2}$ per cent. for four to six months' single names. Banks at the West were among the largest buyers of paper in this market until September.

The clearings of the New York associated banks during the clearing-house year ending Sept. 30 were the largest on record, amounting to \$77,020,672,493.65. For eleven months ending Nov. 30 the clearings were \$73,112,212,005, against \$46,687,067,789 for the same time in 1900. Clearings of all banks in the United States for eleven months this year were \$108,245,078,115, against \$76,720,199,255 for the same time in 1900.

The following is a statement of the average loans, specie, circulation, deposits, and legal tenders of the New York associated banks at the beginning of each quarter and at the end of November, 1901:

DATE.	Loans.	Specie.	Circulation.	Deposits.	Legal tenders.
January 5	\$803,989,600	\$165,023,800	\$30,982,500	\$870,950,100	\$67,059,800
April 6	904,440,600	182,860,500	31,781,700	985,781,300	69,402,800
July 6	889,466,900	169,864,100	30,578,800	965,285,100	76,668,700
October 5	873,558,200	180,354,600	30,618,100	943,553,100	71,093,700
November 30	876,169,200	176,186,500	31,975,000	940,668,500	72,395,200

Stocks.—The stock market was buoyant at the beginning of the year, influenced largely by rumors of impending combinations of important industrial and railroad interests, with the object of harmonizing existing differences and of securing uniformity of tariffs. The purchase in December of the previous year by J. P. Morgan & Co. of the Pennsylvania Coal Company, through which purchase the threatened construction by independent coal operators of a new line of railroads to tide-water was prevented, seemed to foreshadow a movement having for its object the practical control of the anthracite coal-mining and transportation companies. On Jan. 5 it was announced that the above-named firm had secured control, through purchase of a majority of the stock, of the Central Railroad of New Jersey, which control had been tendered to and accepted by the Reading Railroad Company, thus uniting these two important systems. This announcement stimulated an exceedingly active speculation in the stocks of all the coal-producing and carrying roads. Rumors were current of intended combinations of the Great Northern, the Northern Pacific, and the Chicago, Milwaukee and St. Paul systems, which rumors were readily believed, causing rapid advances in the market value of the stocks of these roads, and also in railroad properties generally. The volume of business on the Stock Exchange was enormous and altogether unprecedented during the greater part of the first half of the month. Then followed a recession in prices due to realizing sales, which were encouraged by the absence of confirmation of reports of contemplated deals, and also by the development of weakness in the iron and steel properties. This weakness was caused by the announcement that the Carnegie Company intended to erect a steel plant at Conneaut, on Lake Erie, for the manufacture of merchant pipe, in opposition to the National Tube Company. Subsequently there

was a recovery in the steel properties, and toward the end of the month the market grew strong again, influenced by large purchases of stocks of the Gould system of roads and of other South-western lines. On Feb. 1 it was announced that the Southern Railway Company had offered to exchange its securities for the stock and bonds of the Mobile and Ohio Railroad Company. It was simultaneously announced that Union Pacific interests had secured control of the Southern Pacific, through purchases of the Huntington-Speyer holdings, and that the negotiation would be financed by the issue of \$40,000,000 Union Pacific first-lien 4-per-cent. convertible bonds. Thus were harmonious relations established between the Union Pacific and the Southern Pacific systems, and also the Central Pacific. Another event, early in February, was the purchase by E. H. Harriman of a controlling interest in the stock of the Chicago Terminal Transfer Railroad. Rumors were later current of an intended consolidation of the principal steel manufacturing plants, which rumors were confirmed on Feb. 26 by the announcement by J. P. Morgan & Co. of the organization of the United States Steel Corporation, with a capital of \$1,100,000,000. This corporation was projected to take over and control the Carnegie Company and seven other steel companies,

including the Federal, the Steel and Wire, the National Tube, the National Steel, the American Tin-Plate, the Steel Hoop, and the Sheet Steel plants. The announcement was accompanied by a statement of the terms for the exchange of stocks of the constituent companies for the shares of the steel corporation, which statement caused a decline in the market value of the stocks of the seven companies above named, the terms being regarded as unsatisfactory. The tone of the market at the close of the month was irregular, with the steel stocks heavy and the railroad list and the anthracite-coal properties strong. At the beginning of March there was quite confident buying of investment stocks, and also of Union Pacific, Chicago, Burlington and Quincy, Baltimore and Ohio, and Atchison. The proposal by the Pennsylvania Railroad directors to increase the capital stock to \$100,000,000, the increase of dividends on Chicago, Milwaukee and St. Paul common stock, and evidence of improvement in the anthracite-coal situation, had a stimulating effect upon these properties. The stock of the United States Steel Corporation was traded in on the "curb" at rising prices, and March 20 it was announced that the organization had been successfully completed by the deposit of 98 per cent. of the stocks of the constituent companies; also that the Lake Superior iron-mines would be absorbed by the steel corporation. Rumors, which, however, were not at that time confirmed, were current that the Chicago, Burlington and Quincy would be absorbed by the Great Northern, and some color was given these rumors by the proposed increase of the capital of the last-named company. Toward the end of the month the market grew irregular, though it closed generally strong, with the coal shares higher on the failure of an attempt to cause a strike of miners. There was some selling of stocks based upon an advance in foreign exchange to the gold-export point, and

there were some apprehensions of dearer money. These fears were, however, partly allayed by the issue of an order by the Secretary of the Treasury directing the purchase of bonds for the sinking-fund. In April the market was generally buoyant, and the volume of business for the month was unprecedented, amounting to 41,719,086 shares of stock and \$115,802,800 par value of bonds, making since the beginning of the year 120,967,931 shares of stock and \$448,341,000 bonds. During the first week of the month the tendency of the market was irregularly downward, influenced by active money, by rumors of a strike on the Central New Jersey, and by speculative selling. Subsequently, however, there was a rally, and with the exception of the steel stocks, which were heavy on realizing sales, the buying appeared very confident. Amalgamated copper rose on news of arrangements for consolidation with the Boston and Montana and the Butte and Boston Companies; Chicago, Burlington and Quincy advanced on reports of its intended absorption by the Great Northern and the Northern Pacific; the stocks of the Southwestern roads improved on rumors that these properties would be consolidated with the Gould system, and Atchison rose on reports that the Pennsylvania was seeking control. All the high-priced stocks were in demand, and at the end of the month the market was very strong. In May occurred one of the most noteworthy crises in the history of Wall Street, and though the market closed strong, at almost an entire recovery, the effects of the panic were observable for many months in less confident buying and in occasional sharp declines in prices. The panic was caused by the sudden development of a close corner in Northern Pacific common stock. In order to accumulate the stock for the purpose of carrying out the above-noted plan of absorption of the Chicago, Burlington and Quincy by the Great Northern and Northern Pacific interests, which were represented by J. P. Morgan and James J. Hill, president of the Great Northern, a majority of Northern Pacific common had been bought by this combination. The Union Pacific interests, represented by E. H. Harriman, Kuhn Loeb & Co., and their associates, who held a majority of Northern Pacific preferred stock, feeling apprehensive that their interests in the Southwest would be placed in jeopardy by the absorption of the Chicago, Burlington and Quincy, bought largely of Northern Pacific common stock in the hope that thereby they would secure, with their holdings of the preferred stock, sufficient representation in the company to defeat the plans of their opponents. These purchases of the common stock, which were made in the local market and also in Europe, caused a sharp advance in the price. On May 6 the execution of an order for 200,000 shares of the stock resulted in a rise from 114 to 133, owing to the scarcity of the share certificates in this market, and by May 8 the price was 180. Then the corner rapidly developed, and on May 9 \$1,000 cash per share was paid, while sales for delivery on the following day were \$700 per share, indicating that 300 per cent. was demanded for the use of the stock for one day. The panic which ensued was directly caused by an advance in the rate for money to 75 per cent. per annum, which advance was accompanied by demoralization on the stock market, during which declines were general, and some stocks fell almost as sharply as they did in the panic of 1873. Atchison dropped from 78½ to 43, St. Paul common from 165 to 134, and Rock Island from 158 to 125. Among the other prominent stocks Delaware and Hudson fell 60 points,

Louisville and Nashville 27½, Manhattan 37, Missouri Pacific 31, Union Pacific common 37, and Southern Pacific 20. Early in the day arrangements were made, through Frederick D. Tappen, president of the Gallatin National Bank and chairman of the Clearing-House Committee, to loan \$19,500,000, which sum was contributed for that purpose by fourteen banks, and the prompt loaning of this money, together with \$6,000,000 by J. P. Morgan & Co., caused a fall in the rate for money to 6 per cent. Confidence was almost immediately restored, and the acute stage of the crisis speedily ended. Concurrently J. P. Morgan & Co. and Kuhn Loeb & Co. announced that they had agreed not to enforce immediate deliveries of Northern Pacific stock, naming \$150 per share as the basis of settlement. Prices of stocks thereupon almost as rapidly recovered as they had declined. Though feverish, owing to enforced liquidation of speculative accounts, which were insufficiently margined, the market was generally strong to the close of the month. The volume of business, however, was greatly reduced. One feature in the last week was an advance in Delaware, Lackawanna and Western to 244, a rise of 50 points since March. It was reported at the end of the month that an agreement had been reached by which control of the Northern Pacific would remain with the Morgan-Hill combination. The sales of stocks at the Exchange during May were 35,292,203 shares, making 156,260,134 since Jan. 1. In the following month stock transactions fell off to 19,795,612 shares, clearly indicating the effects of the panic upon the volume of business. The market was, however, generally strong until toward the end of June. Among the features was a rise in Chicago, Milwaukee and St. Paul, due to reports that the road was to be acquired in the interest of the Union Pacific. Other important advances were in Iowa Central, Minneapolis and St. Louis, Illinois Central, Chicago and Great Western, St. Louis and San Francisco common, and New York Central. Rumors that the United States Steel Corporation intended to absorb the Colorado Fuel and Iron and the Tennessee Coal and Iron Companies caused buying of those stocks. In the last week of the month the failure, June 27, of the Seventh National Bank of New York, the unsettled financial situation in Germany, and low reserves of the New York Clearing-House banks had a depressing effect upon the market, though there was an irregular recovery by the close of the month.

The intense heat early in July tended to restrict business on the Stock Exchange. The prevalence, during almost the entire month, of dry and hot weather in the West, which caused disastrous damage to corn and seriously affected other agricultural products, unfavorably influenced the speculation in the stocks of the grain-carrying roads. On July 1 a strike of the Amalgamated Association of Iron and Steel Workers was inaugurated for the purpose of compelling the recognition of the association by the managers of the United States Steel Corporation. A strike of the machinists of the United States for a nine-hour day, which strike began in May, was then in progress, but this industrial trouble came to an end early in the month, as also did a strike of stationary firemen at the anthracite-coal mines, which was intended to assist the steel strike. At the close of the month a settlement of the Amalgamated Iron and Steel Workers' differences seemed probable, but assent to the terms of adjustment was withheld by the president of that association. On the opening of the market after

the Fourth of July holiday there was a sharp fall in prices, due to the above-noted disturbing conditions, and also to the unfavorable bank statement of the previous week, to active money, to reports of renewed friction between the Harriman-Kuhn Loeb and the Morgan-Hill interests, and to a proposed cut in rates by the Atchison, Topeka and Santa Fé Railroad Company. The market was more or less unsettled until July 17, when the new board of directors of the Northern Pacific Railroad Company was announced by J. P. Morgan. This was regarded as indicating that the differences between the Morgan and the Harriman interests had been adjusted, and the market gradually, though irregularly, improved, and at the end of the month there was a substantial recovery. The steel strike continued throughout August, but there were indications at the close of the month of its speedy collapse. The Bureau of Agriculture on Aug. 10 reported the condition of the corn crop much worse than had been expected; later advices were, however, more encouraging. The effect upon the market, Sept. 7, of the murderous assault on President McKinley was to some extent minimized through the prompt and effective action which was taken by the Clearing-House Committee of the New York associated banks to avert a crisis and to restore confidence in the situation. The immediate response by the Secretary of the Treasury to the appeal of the above-noted committee for relief to the money market and the issue by the Secretary of an order directing purchases of bonds to the amount of \$20,000,000 also had an assuring effect. The Stock Exchange was promptly closed on the receipt of news of the attack on the President, and by the Monday following the excitement had subsided, and the tone of the market was thereafter generally strong, there being no renewal of apprehension on the announcement of the death of the President. The steel strike collapsed on Sept. 14, and this contributed to an improvement in the market. On the 20th the directors of the Amalgamated Copper Company declared only the regular quarterly, omitting the extra, dividend on the stock, and this action caused a sharp fall in that property. This had a disturbing effect upon other industrials, and also upon the copper speculation at the European centers. Later, however, there was a partial recovery in the local market, influenced by a rise in the Vanderbilt specialties which was due to a report that the organization of a securities company to take over the stocks and bonds of certain roads in the Vanderbilt system was contemplated. The generally unfavorable reports of the condition of industrial companies, which were made public at the beginning of October, had an unsettling effect upon the market value of the shares of these concerns. Stocks of railroad companies were, however, generally strong during the month. Among the notable gains were in Atchison, influenced by an increase in dividends on the common stock; in the Northern Pacific and Union Pacific, due to rumors of a settlement of the differences between the Morgan and the Hill interests; and in St. Paul common, New York Central, Lake Shore, and Michigan Central. At the close of the month the market was irregular and lower, in consequence of liberal sales for European account due to the development of unsettled conditions on the foreign bourses. Early in November the market gradually improved under the lead of Union Pacific and the properties in the Northern Pacific-Great Northern group; these were affected by conferences having for their object the adjustment of the matters in dispute between the interests repre-

senting these roads. As the result of these conferences a corporation was organized under the laws of New Jersey to be known as the Northern Securities Company, with a capital of \$100,000,000, to hold the stocks of the Northern Pacific, the Great Northern, and the Chicago, Burlington and Quincy Railroad Companies, the Harriman-Kuhn Loeb and the Morgan-Hill interests being represented in the directorate of the Securities Company. The stock market grew active and stronger after the announcement of the above-noted organization, and there was an exceptionally good demand for Union Pacific, the shares of the grain-carrying roads, the Vanderbilt specialties, and local traction stocks. Though there was some realizing in the shares of the Northern Pacific-Great Northern group of roads, caused by the opposition of the governors of the Northwestern States to the plan for the control of these properties, the declines were not important, and the market was generally strong to the close of the month, with the Vanderbilts leading; amalgamated copper was, however, quite weak.

Total sales of stocks at the New York Stock Exchange for eleven months ending Nov. 30 were 249,193,674 shares, against 114,968,555 shares for the corresponding period in 1900.

The following shows the highest prices of a few of the leading speculative stocks in 1900, and the highest and lowest prices to Nov. 30, 1901:

STOCKS.	1900.	1901.	
	Highest.	Highest.	Lowest.
American Sugar Refining Co.	149	153	112½
American Tobacco, preferred.	140	150	137
Brooklyn Rapid Transit.	88½	88½	55½
Central New Jersey.	150½	185	145½
Chicago, Burlington and Quincy.	144	199½	138½
Consolidated Gas.	201	238	187
General Electric.	200	251½	183½
Louisville and Nashville.	89½	111½	76
Manhattan Elevated.	116½	138½	83
Missouri Pacific.	72½	124½	69
Omaha.	126	146½	125
Pacific Mail.	57	49½	30½
Reading.	26	52	24½
Rock Island.	122½	175½	116½
St. Paul.	148½	188	134
Southern, preferred.	73½	94½	67½
Tennessee Coal and Iron.	104	76½	49½
Union Pacific.	81½	133	76
Western Union.	88½	100½	81

The Crops.—Crop conditions early in the year were quite favorable. The acreage planted to grain and cotton was large, and the weather was generally such as to encourage expectations of an abundant yield. While there was some impairment as the result of drought in the condition of fall-sown wheat, indicated by the early June report of the Department of Agriculture, the average was much higher than that at the same time in the previous year, being 87.8 per cent., against 82.7 per cent. in June, 1900. The outlook for spring-sown wheat was far superior to that of the year before, when the crop, in some sections, was almost an entire failure. The harvest of fall-sown wheat began in June, and the results were very satisfactory. Early in July, after this crop had been gathered, extremely high temperatures prevailed throughout the entire grain area, accompanied by severe drought, which caused great damage to spring-sown wheat, while corn was in some sections almost destroyed. Toward the end of the month the drought was broken by showers, but these were insufficient in many of the States west of the Mississippi to afford the needed relief, and the corn situation was critical. Spring-sown wheat, however, suffered small loss. The drought was entirely broken

to the close of July and in August, and there were then some hopes entertained that corn conditions would improve. These expectations, however, were only partially realized, and in Missouri and in other States in that section the crop was almost a complete failure. In Kansas, however, the wheat crop was the largest on record. The yield of hay and potatoes was reduced much below the average, and the destruction of pasturage on the ranges by the drought caused heavy losses of beef-cattle. The report of the Bureau of Agriculture for Aug. 1 showed an average of 54 per cent. for corn, a decline of 27.3 per cent. in the previous month. The average in Kansas was 19, for Missouri 29, for Nebraska 36, for Illinois 51, and for Iowa and Indiana 57 per cent., each indicating very considerable damage in the Central corn belt. The yield of corn, based upon conditions in October, was estimated at not more than 1,359,970,000 bushels, against 2,105,102,516 bushels in the previous year. The wheat yield, however, was then calculated at 644,835,000 bushels. The October report of the Department of Agriculture showed an average condition of corn 52.1 per cent., the lowest ever recorded. The indicated yield of oats, on an average condition of 83.7 per cent., against 89.2 per cent. last year, was 660,756,000 bushels, against 809,125,989 bushels in 1900. The estimated crop of barley was 70,631,000 bushels, against 58,925,833 bushels last year. Owing to the failure of the corn crop high prices prevailed, and these tended to check exports. The demand for wheat for shipment to Europe, where the crop was generally deficient, caused high prices for this cereal, and early in the fall some of the farmers in the Northwest withheld their wheat from the market in expectation of an advance. The yield of cotton was above the average, and it was estimated at 10,560,417 bales. Though ocean freights were low, because of the competition of vessels released from the South African transport service, the export movement of cotton was small until October, planters holding the staple for higher prices. These low ocean freights failed to stimulate shipments of grain from the Northern ports, and during a portion of the active export season many of the regular steamers were compelled to sail in ballast owing to inability to obtain grain cargoes.

Foreign Exchange.—The exports of domestic and foreign merchandise for the eleven months ending Nov. 30, 1901, were \$3,562,871 below those to the same date in 1900, and the imports of merchandise were \$39,972,100 greater. The excess of merchandise exports over imports for the eleven months was \$528,068,764, against \$571,603,735 for the corresponding period in 1900. The excess of exports over imports of merchandise and gold and silver coin and bullion for eleven months was \$553,407,425, against \$583,846,191 for the same time in 1900. Gold exports were \$2,790,195 in excess of imports for eleven months in 1901, against \$9,638,383 imports over exports for the corresponding period in 1900.

The foreign exchange market was strong in January, influenced by easy monetary conditions at this center and by higher discounts in London, which encouraged the remittance of bankers' balances for employment at the British capital. The market was also affected by the return to this country from Europe of large amounts of American securities, which had been held abroad by investors and been bought by speculators who were induced to sell by the high prices ruling for these properties in our market. This movement stimulated a demand for sterling exchange for remittance, and after opening at \$4.81½ to \$4.82 for

sixty-day and at \$4.85½ to \$4.86 for sight bills, there was a gradual advance to \$4.84½ to \$4.84½ for the former and to \$4.88 to \$4.88½ for the latter by the end of the month. These high rates for exchange made profitable shipments of gold, and \$8,083,869 of the metal was exported to Paris, the requirements for gold being greatest at that center. The market was irregular in February, tending downward for sight exchange, partly in consequence of a reduction in the Bank of England rate from 5 per cent. to 4 per cent. After opening at \$4.84½ to \$4.84½, sixty-day bills advanced to \$4.84½ to \$4.85 by the 4th, declined to \$4.83½ to \$4.84 on the 20th, and the closing quotation was the same as the opening. Sight bills opened at \$4.88 to \$4.88½, rose to \$4.88½ to \$4.88½ on the 4th, fell to \$4.87 to \$4.87½ on the 18th, and they closed at \$4.87½ to \$4.87½. The requirements for remittance were met without making necessary shipments of gold. In March the market recovered, and it was generally strong. Sixty-day bills opened at \$4.84 to \$4.84½, rose to \$4.85 to \$4.85½ by the 28th, and they closed at \$4.84½ to \$4.85. Sight bills opened at \$4.87½ to \$4.87½, advanced to \$4.88½ to \$4.88½ by the 28th, and they were \$4.88 to \$4.88½ at the end of the month. Gold to the amount of \$245,318 was shipped to Paris on the 30th. In April the tone was strong for the greater part of the month, closing easier. The rate for sixty-day bills at the opening was \$4.85 to \$4.85½. There was an irregular advance to \$4.85 to \$4.85½ by the 22d, followed by a decline to \$4.84½ to \$4.84½ by the close. Sight sterling opened at \$4.88½ to \$4.88½, and it thereafter fluctuated between this rate and \$4.87½ to \$4.88, closing at that quotation. The shipments of gold to Europe were \$4,819,435. In May the market was strong, chiefly influenced by a demand to remit for securities. It is noteworthy, however, that it was not directly affected by the crisis resulting from the Northern Pacific corner, though after the panic the increased movement hither from Europe of American securities, which was due to the above-mentioned corner, greatly contributed to the strength of the market. Owing to the urgent demand for remittance, \$10,073,007 gold was exported, principally to Paris and Berlin. The quotation for sixty-day bills at the opening was \$4.84½ to \$4.84½, and there was an advance to \$4.85 to \$4.85½ by the close of the month. Sight bills were \$4.87½ to \$4.88 at the opening, and they closed at \$4.88½ to \$4.88½. In June money was relatively higher in New York than in London, the Bank of England rate having been reduced to 3½ per cent. on the 6th and to 3 per cent. on the 13th, and comparatively low reserves of the New York associated banks tended to make our money market firm. With the object of taking advantage of the low rate for discounts in London, those of our bankers who were largely interested in railroad and other combinations negotiated exchange loans upon stock collateral to such an extent as to create more or less of an urgent demand for exchange. At the same time there was a large inquiry for remittance for securities sold in the stock market for European account, and the supplies of exchange being insufficient to meet these requirements, the tone was strong. After opening at \$4.85 to \$4.85½, sixty-day bills advanced by the 13th to \$4.85½ to \$4.86, later declining to and closing at \$4.85½ to \$4.85½. Sight bills opened at \$4.88½ to \$4.88½, but after the 18th they fell to \$4.87½ to \$4.87½, recovering by the close of the month to \$4.87½ to \$4.88. The gold exports during the month amounted to \$4,910,307, and they were wholly to Germany, where there was more or less financial

derangement, due to the unsettled industrial situation and to somewhat important failures of banks. In July the market was affected early in the month by high rates for money in New York, and later by an insufficiency of commercial bills resulting from a light movement of commodities. There was a good demand to cover, or rebuy, exchange which had been previously sold for delivery in this month, and there was also a steady inquiry for sight sterling with which to pay maturing exchange loans which had been negotiated in May. Sixty-day bills opened at \$4.85½ to \$4.85½, falling to \$4.84½ to \$4.84½ by the 12th, and reacting to \$4.85 to \$4.85½ at the end of the month. Sight bills opened at \$4.87½ to \$4.87½, and after declining to \$4.87 to \$4.87½ on the 12th they advanced to and closed at the opening rates. Gold exports were \$1,353,241, entirely to Germany. The market was strong during the first half of August, influenced to some extent by easier money in New York, but after the 14th the tone grew weak in consequence of a better supply of commercial bills, the shortage in the corn crop stimulating an export demand for grain, and at the same time there was a lighter demand for remittance. Sixty-day bills opened at \$4.85½ to \$4.85½, and after rising to \$4.85½ to \$4.85½ by the 14th they fell to and closed at \$4.84 to \$4.84½. Sight sterling opened at \$4.87½ to \$4.88, advanced to \$4.88 to \$4.88½ on the 7th, and then gradually declined, closing at \$4.86 to \$4.86½. In September the lowest rates of the year were recorded. After opening at \$4.83½ to \$4.84 for sixty-day bills, there was a decline, influenced by dearer money, a better supply of commercial drafts, and a light inquiry, to \$4.82½ to \$4.82½ by the 18th, after which there came a recovery to \$4.82½ to \$4.83 at the close. Sight exchange opened at \$4.85½ to \$4.86, and it fell by the 16th to \$4.84½ to \$4.85 by the 20th, when \$1,250,000 gold was bought in Europe for shipment hither. There was a reaction to \$4.85½ to \$4.85½ by the end of the month, due to a demand to pay maturing exchange loans and for remittance. In October the market was affected by a dearth of commercial bills against cotton, planters withholding the staple for higher prices, and by the light export movement of corn, due to the limited supply, and though wheat moved freely the resulting bills were small. Bankers' drafts were absorbed by an inquiry for remittance, and also to cover contracts, and there was a special demand toward the end of the month for the November instalment, payable by American subscribers to the British consol loan, which was issued in April. Sixty-day bills opened at \$4.83 to \$4.83½, and they advanced by the 22d to \$4.84½ to \$4.84½, closing, however, at \$4.83½ to \$4.83½. Sight exchange opened at \$4.85½ to \$4.85½, and it steadily advanced to and closed at \$4.86½ to \$4.87. An important influence was exerted upon the market at the end of the month by monetary derangements at Paris and at London. Owing to large sales of Paris exchange on London, caused by an unsettling fall in copper stocks at the French capital, the rates for such exchange had fallen so low as to draw gold from London to Paris, and, concurrently, there was a movement of the metal from London to Berlin. Discount rates rose, and the Bank of England minimum was advanced on the 31st to 4 per cent. While New York exchange on London would not permit shipments of gold to that center, sight bills being below the gold export point, there was a profit in exporting gold to Paris. Accordingly, \$2,851,586 gold was forwarded to Paris on the 31st. The bills for the reimbursement of the shippers were drawn on London, and the money with which to

meet these bills, when they should be presented, was obtained by the sale, by the Bank of France, of the gold, of Paris exchange on London. The exchange market was generally strong in November in consequence of a demand for bills for the settlement of maturing loans. There was an insufficient supply of bankers' drafts, and though commercial bills were offered in fairly liberal amounts, they were in such urgent request that the offerings were promptly absorbed. On the 19th there was some evidence of a corner in sight bills, and, owing to the inability of bankers to procure exchange for remittance, the largest single export of gold ever made to Europe, amounting to \$7,329,583, went forward. In the following week the market grew easier, partly because the urgent demand had been satisfied by the exports of gold, but chiefly because of the renewal by borrowers of their maturing exchange loans. By the end of the month, however, the market again became strong. The gold exports in November were \$15,420,804, making \$47,907,629 since the beginning of the year. Rates for exchange were \$4.83½ to \$4.84 for sixty days at the opening of the month, and the highest rates were \$4.84½ to \$4.85 on the 18th; the closing quotations were \$4.84½ to \$4.84½. Sight exchange opened at \$4.87 to \$4.87½, and after sales at \$4.86½ to \$4.87 rates rose to \$4.88 to \$4.88½ by the 18th. They fell to \$4.87 to \$4.87½ on the 25th and recovered to \$4.87½ to \$4.88 by the close of the month.

Railroads.—The acquisition, elsewhere referred to, by J. P. Morgan of a controlling interest in the Central Railroad of New Jersey, and its transfer to the Reading, was one of the most important events early in the year. The object of the movement, the harmonizing of conflicting interests among the coal-carrying roads, was not only attained, but the earnings of these roads showed marked improvement during the greater part of the year. This event was followed by the absorption of the Mobile and Ohio by the Southern Railway Company, and the purchase by the Union Pacific of control of the Southern Pacific, and also by the further development of the community of interest policy through the purchase by E. H. Harriman and associates of control of the Chicago Terminal Transfer Company, and of a large block of the stock of the Illinois Central. The announcement was made in April of arrangements for the absorption by the Great Northern and the Northern Pacific of the Chicago, Burlington and Quincy. The resulting crisis in the stock market, due to efforts by the Harriman-Kuhn Loeb syndicate to protect their interests through the purchase of larger amounts of the Northern Pacific stock than they then held, seemed to cause a suspension of movements having for their object further acquisitions of railroad properties by combinations of capitalists. In November the announcement was made of the organization of the Northern Securities Company, with a capital of \$400,000,000, to hold the stocks of the Great Northern, the Northern Pacific, and the Chicago, Burlington and Quincy companies. This arrangement was designed to provide for the joint ownership by the Harriman and the Morgan-Hill syndicates of these properties. The Harriman syndicate was given three representatives on the board of directors of the Northern Securities Company, and the Northern Pacific Railroad Company was represented by six directors. James J. Hill, president of the Great Northern, was made president of the Securities Company, and his interests and those of J. P. Morgan were represented by six directors. It was mutually agreed that the Northern Pacific preferred stock should be retired

Jan. 1, 1902. Immediately after the announcement of the details of the organization of the Northern Securities Company the Governor of Minnesota expressed the opinion that the agreement provided for the consolidation of the Great Northern and the Northern Pacific, and that these being competing roads, such consolidation would be in violation of the State law. He also called the attention of the Governors of North Dakota, Washington, and Idaho, in which States these roads were also operated, to this matter in order that they too might take action. The officers of the Northern Securities Company, however, claimed that consolidation of the roads was not intended, the company being formed solely for the purpose of holding the stocks of the roads. Deposits of these stocks began soon after the completion of the organization of the Securities Company, and by the end of November nearly all of such shares had been turned over to the new corporation.

Gross earnings of 206 railroads during the first six months of the year showed an increase of \$68,181,730 compared with the corresponding period in the previous year. In July the gain by 113 roads was \$12,019,349; in August 121 roads reported gains of \$12,098,685; in September 102 roads gained \$6,536,704; and in October the gains by 105 roads were \$8,232,194. For ten months ending Oct. 31 100 roads reported earnings of \$624,640,241, an increase compared with the corresponding period last year of \$58,273,840. None of the roads, excepting the Mexican, showed important decreases.

Manufacturing Industries.—Among the most important consolidations of capital in manufacturing enterprises was that in the steel industry in February, when, as elsewhere noted, the United States Steel Corporation was organized with a capital of \$1,100,000,000 to take over the principal iron and steel producing plants of the country. The chief object of this consolidation, the regulation of the output and the maintenance of prices for the manufactured articles, appeared to be attained, though the foreign demand for these products was smaller than in the previous year. The strike of steel workers, which began in July and ended in September, seemed to have little influence in checking production, and in October there was a marked increase in the demand for iron and steel which caused a sharp advance in the prices in the following month. It was then estimated that the output of steel rails for the year would be about 2,700,000 tons, and of pig-iron 16,650,000 tons. The yield of pig-iron was partially restricted in November, owing to a deficiency in the supply of coke. Another important consolidation early in the year was that of the Amalgamated Copper Company. This was followed by litigation with a view to prevent the absorption of Montana mines and, concurrently, the statistical position of copper had a depressing effect upon the domestic industry. Imports of copper from Mexico, Australia, and Chili were large in November, thus decreasing the foreign visible supply and greatly augmenting stocks in manufacturers' hands. Hence the unsettled markets toward the end of the year. There was an expansion in the tobacco-manufacturing industry, and an absorption by the American Company of large plants in England and also in the United States. In November there was active competition between the Consolidated and the Universal companies for the control of the McAlpin plant, which resulted in its acquisition by the former. A corporation with a capital of \$50,000,000 was projected in November to control the zinc-smelt-

ing companies, with a view to regulate production and increase profits. There was no special feature in the cotton-manufacturing industry until August, when the Fall River Selling Committee was dissolved. This committee, it may be noted, had been in existence since October, 1898, and it was organized to regulate production and prices of print-cloths. A movement developed after its dissolution for a reduction in rates of wages, manufacturing being somewhat unprofitable at the then prevailing rates because of high prices for the staple, but the proposed reduction was abandoned. Then M. C. D. Borden came to the relief of the market, as he had done on previous occasions, and offered to take the whole supply of print-cloths at an advance of one-sixteenth of a cent per yard. This caused a temporary improvement in the market. Early in October the situation became unsettled, owing to the refusal of manufacturers to advance wages. Toward the end of November there seemed to be some prospect of an adjustment of wage differences through a convention of textile operatives at which Southern mills would be represented. The woolen and the silk manufacturing industries were active during the greater part of the year, and trade conditions were fairly prosperous.

Incorporations of new industrial companies during eleven months ending Nov. 30, 1901, indicated a total capitalization of \$2,805,605,000, against \$2,255,075,000 for the corresponding period in 1900.

Imports of unmanufactured material showed only slightly increased values until October, when there was a gain, partly due to the above-noted importations of copper. The decreased exports of manufactures of this metal, however, caused more or less of a reduction in the total of the export movement of manufactured goods, and at the end of November these exports for the eleven months were \$362,392,181 against \$408,529,105 for the corresponding period last year.

Commercial failures for eleven months ending Nov. 30 were 9,594, involving \$118,358,793 of liabilities, against 8,833, involving \$109,913,257 for the same time in 1900.

FINE ARTS IN 1901. Under this title are treated the principal art events of the year ending with December, 1901, including especially the great exhibitions in Europe and the United States, sales and acquisitions of works of art, and erection of public statues and monuments.

Paris.—The two Salons are now permanently housed in the Grand Palais des Champs Élysées, constructed to serve the same purposes as the old Palais de l'Industrie, which occupied very nearly the same site, and in which the annual Salons had been held since 1855. The new Palais, which is the property of the state and is under the administration of the Beaux Arts, was occupied last year by the Centennial Exhibition of Art. The two Salons are lodged on the same floor, separated from each other by only a thin partition, the Artistes Français on the Avenue Nicolas II, the Société Nationale on the Avenue d'Antin.

Paris: Salon of the Artistes Français.—The officers of the Société des Artistes Français for the year are: Honorary Presidents, Léon Bonnat, Edouard Detaille, Jean Paul Laurens; President, William Bouguereau; Vice-Presidents, A. Bartholdi, Louis Henri Georges Seillier de Gisors; Secretaries, J. G. Vibert, G. Lemaire, J. L. Pascal, A. Mongin; Corresponding Secretary, Albert Maigman; Secretary-Treasurer, E. A. Boisseau.

The annual exhibition (May 1 to June 30) comprised 4,812 numbers, classified as follows: Paintings, 2,092; cartoons, water-colors, pastels,

miniatures, enamels, porcelain pictures, etc., 851; sculptures, 668; engraving on medals and precious stones, 84; decorative art, 298; architecture, 309; engraving and lithography, 510.

The honorary awards for 1901 are as follow: Section of Painting: No medal of honor awarded. First-class medal: Adolphe Décheud, for *Portrait of Mon Père*, which was bought by the state. Second-class medals: Émile Louis Thivier (for *Jephte*), Henri Thiérot, Karl Cartier, Raoul de Pibrac, Georges Laverne, Georges Haquette, Laurent Jacquot-Defrance, Léon Richet, Mme. Debillmont - Chardon, Henri Courcelles - Dumont, Henri Zo, Henri Dabadie, Herman Hartwich (New York), Paul Hippolyte Flandrin. Third-class medals: Frank Spenlove-Spenlove, Paul Michel Dupuy, Edmond Richter, Étienne Mondineu, Gustave Henri Mosler (New York), Mme. Delorme, Georges Boisselier, Tancrède Synave, André Humbert, Patrick Downie, Henry Caro-Delvaile, Walter Thor, Susan Watkins (California), Valentine Pépe, François Maurice Lard, Pierre Vignal, Léon Bellemont, Maurice Moisset, Gustave Adolphe Grau, Gaston de Burgraff, Othon de Faber du Faur, Seymour Thomas (United States), Jules Scalbert, Ernest Azéma, Mlle. Louise Lavrut.

Section of Sculpture: No medal of honor awarded. First-class medals: Eugène Jean Boverie, for statue of Baudin and figure for a tomb; Georges Recipon, for a plaster relief and a marble bust. Second-class medals: Paul Auban, John Goscombe, Anatole Guillot, Paul Ducuing, Albert Ernest Miserey, Sylvain Salières. Third-class medals: Fernand David, Maurice Roger Marx, Hans Schuler (Baltimore), Paul Ludovic Theunissen, Julien Lorieux, Jean Baptiste Larrive, Édouard Paul Mérite, Edmond de Lahendrie, Gabriel Zimmermann, Jules Louis Rispal, Alix Marquet, Xavier Barthe, Albert Schirrer.

Section of Architecture: Medal of honor, Joseph Albert Tournaire, *État actuel et restauration des fouilles de Delphes*, bought by the state. First-class medals: Jacques Hermant, Louis Albert Louvet. Second-class medals: Henri Le Grand, Ernest André Thibeau, Louis Grandin. Third-class medals: Charles Henri Lemaesquier, Marcel Aubertin, Georges Alexandre Closson, Louis François Tavernier, Georges Dussart, Richard Bouwens van der Boyen, fils, Jean Frédéric Taillens.

Section of Engraving and Lithography: Medal of honor, Augustin Mongin, etching, *Le Baptême*, after Dendy Sadler. First-class medals: Engraving, Émile Jean Buland, André Charles Coppiet; etching, Victor Louis Focillon, Albert Ardail; wood, Marguerite Jeanne Jacob-Bazin. Second-class medals: Engraving, Julien Deturck, Jean Vybond; etching, Henry Fabien Alasonière; lithography, Marguerite Vernant. Third-class medals: Etching, Mlle. Léonide Bourges; wood, Adolphe Dauvergne, Marie Marguerite Gaillard; lithography, Émile Pierre Bertrand, Louis Huvey, Eugène Mathurin Mage.

Among the noteworthy exhibits was the portrait of Queen Alexandra, by Benjamin Constant, whose large state portrait of Queen Victoria, exhibited last year in the Paris Exposition, is seen this year in the Royal Academy. The Alexandra is in direct contrast to the dramatic portrait of Victoria, and is intended to be a family likeness—a *portrait intime*—from which all idea of state is absent. It is a bust portrait, showing the hands, and is in the ordinary costume of the day.

Léon Bonnat exhibited a portrait of M. Loubet, President of the republic. He is represented, three-quarters length, seated in a chair, with arms folded, looking front.

Georges Rochegrosse's *Marvellous Legend of the Queen of Saba and King Solomon* is an immense triptych, the middle panel of which represents the reception of the Queen by Solomon on the throne, and the left and right other episodes of the legend.

Marbot at Jena, by Émile Boutigny, represents a scene described by Marbot in his *Memoirs*, in which he rescues from drunken soldiers of Hesse-Darmstadt two beautiful young girls who, scantily clad, are crouching at the foot of a bed.

Paul Gervais contributed *Fête in Honor of Bacchus and Ariadne*. Bacchus, crowned with vine leaves, stands beside Ariadne, who is seminude, in front of an altar erected beside a Terminus, while all around bacchantes and satyrs are grouped, some playing instruments and some dancing. In the background are the shore of the sea and mountains.

Louis Beroud's *Paradise Lost* represents Adam and Eve driven from Eden by the Angel, whose hand is seen reaching out from a cloud of light behind. At the right, upon a craggy rock, is a tiger showing his teeth, and at the left a hovering bird of prey.

Ulpiano Checa's *Vinicius riding toward Burning Rome* is evidently a scene from *Quo Vadis*, and Henri Charles Daudin's *Aphrodite* a scene from the *Aphrodite* of Pierre Louys. The latter represents the quay at sunset, with galleys in the background and in the foreground dancing girls, and many other figures grouped around them.

The *Abduction of Cupid by the Sirens*, by Adolph Lalire, is an immense canvas representing sirens and sea-horses in an apparently inextricable maze, with Cupid in the midst and flying *amoretti* above. It is said to be for the dining-room of the Château des Sirenes.

Paris: Salon of the Société Nationale.—The twelfth annual exhibition of the Société Nationale des Beaux Arts comprised 1,960 numbers, of which 932 were paintings, 486 designs, drawings, etc., 129 engravings, 141 sculptures, 219 art objects, and 53 architecture.

The post of honor was reserved for seven works of Cazin, lately deceased, who was one of the most active founders of the Société Nationale. Among them was his *Souvenir de Fête à Paris*, exhibited first in the Salon of 1881, which was received by the critics with many satirical remarks, and a later and better example, entitled *La Charette*.

Of the five exhibits of Carolus-Duran, *The Ensign of the Fencing Master* represents a full-length figure in fencing costume leaning on his foil.

J. Béraud exhibited his usual monstrosity, a sacred subject in modern costume. He entitles this one *Christ Bound to the Column*. It represents the Saviour, whose head radiates light, in the midst of a crowd of French workmen and gamins, who are binding him with cords.

Hagborg's *Elves* represents many nude figures with diaphanous flying draperies floating in air over an expanse of water with a wooded landscape for a background. His *Old Fisherman*, a more characteristic subject, shows an old man standing in shallow water, with a basket on his back, and holding a good-sized hand net in both hands.

Aublet's *Young Girl frightened by a Swan* is a suggestion of the story of Leda. The girl, who is entirely nude, is sitting on a grassy bank throwing up her arms in terror at the swan, which does not look in the least aggressive. It is simply an excuse for painting a nude, of which the exhibition was full, under the usual titles of *A Study*, *Nude Study*, *Spring*, *Summer*, *Lady at her Toilet*, etc.

The *Upper Chamber*, by Eugène Girardet, repre-

sets a shadowy Christ sitting in a glow of light behind a table, on which are a chalice, a plate, a vase, and an antique lamp, and at each end of the table a figure in Eastern costume, listening to his words. Save the light in their front the two men are in strong shadow.

J. J. Rousseau exhibited several characteristic cattle pieces, and Firmin-Girard *The Pavement of the Central Paris Market*.

Paris: Miscellaneous.—At the sale of the Georges Feytaud collection, in February, the aggregate receipts were 513,000 francs. Some of the prices obtained were: Boudin, *Le Port de Camaret*, 11,250 francs; *Le Port d'Anvers*, 2,560; *Trouville Market*, 5,400; *Brest Harbor*, 8,100; *Rotterdam*, 8,200; *L'Éclaircie*, 10,000; *View of Antwerp*, 6,850; *Environs of Trouville*, 7,600; *Douarnenez Harbor*, 4,200; *Outer Dock at Trouville*, 4,650; *Corot, Twilight*, 10,000; *The Tower*, 17,200; *Carolus-Duran, La Fille de l'Emir*, 6,000; *Dau-mer, The Bath*, 3,000; *The Amateurs*, 15,200; *Diaz, The Thicket*, 7,500; *Isabey, The Port*, 10,500; *Jacque, Horse and Sheep*, 3,300; *Jongkind, Dutch Canal*, 8,310; *Environs of Nevers*, 7,100; *La Rue de l'Abbé de l'Épée*, 9,150; *Monet, Rocks at Étretat in the Morning*, 7,200; *do. in the Evening*, 6,900; *Hoarfrost*, 11,000; *Meadow*, 6,700; *Rocks at Belle Isle*, 5,500; *Poppy Field*, 9,100; *Pissaro, Rouen Fog Effect*, 10,000; *Renoir, Garden at Fontenay*, 7,000; *Peonies*, 3,800; *Ricard, Girl's Head*, 9,550; *Ribot, Kitchen Scene*, 9,050; *De Sisley, Banks of the Loing*, 5,600; *Garden at Louveciennes*, 11,100; *The Tow-Path*, 7,350; *Moret Bridge*, 28,000; *Argenteuil Bridge*, 10,000; *Birches and Acacias*, 5,300; *Stevens, Girl Reading*, 5,000; *Ziem, Venice*, 8,900; *St. Sophia at Constantinople*, 5,100; *Grand Canal at Sunset*, 19,000.

M. Charles de Bériot's collection, sold at the *Hôtel Drouot in March*, realized a total of 388,950 francs. Among the best prices obtained were: *Jongkind, Honfleur*, 7,900 francs; *Notre Dame*, 7,000; *Patineurs à Oversalie (Holland)*, 9,000; *Canal at Dordrecht*, 16,600; *Rotterdam—la Nuit*, 12,700; *Vue de Maassluis*, 31,000; *Clair de Lune*, 9,000; *Patineurs*, 19,100; *Marseille*, 10,000; *Harpignies, Saules à l'Arrière-Saison*, 13,050; *La Rivière*, 8,250; *Maison Reflétée*, 10,950; *Laveuses*, 9,700; *Chênes de Château-Renard*, 14,800. *Monet's Jardins de l'Infante* brought 10,300 and *Boudin's Anvers* 12,950 francs.

The collection of the Abbé Gauguin, sold in May, realized 127,400 francs. *Claude Monet's Printemps à Giverny* brought 8,300 and *De Sisley's Gelée Blanche* 9,200 francs. Another collection, sold in the same month, produced a total of 348,000 francs. Among the best prices obtained were: *Courbet, Le Réveil*, 13,000 francs; *Charles Jacquet, Le Retour du Troupeau*, 37,500; *Ziem, La Flotte sortant du Port d'Anvers*, 35,000; *Le Canal—Venise*, 34,000; *Le Soir sur la Grand Canal*, 23,000 francs.

London: Royal Academy.—The thirty-second annual winter exhibition was devoted to the works of British artists deceased since 1850, about 200 pictures by 61 artists. It included examples of *Turner, Frederick Walker, George Mason, Millais, Landseer, Rossetti, Madox Brown, Alfred Stevens, Calderon*, and others. Among the examples by *Turner* were *Conway Castle* and *The Wreck of the Minotaur*; by *Rossetti, Fiametta*; and by *Madox Brown, Chaucer at the Court of Edward III*.

The one hundred and thirty-third summer exhibition, with more than 1,800 entries, was about equal in artistic importance to the one of last year. As in that exhibition, the pictures of *John S. Sargent*, the American painter, dominated all

the rest. The *London Athenæum* says: "It must be admitted that, if all the other pictures in this exhibition pass into oblivion, Mr. Sargent's are likely to survive." Among his exhibits were portraits of *Mrs. Schreiber, Mrs. Russell, Sir Charles Sitwell and Family, Mrs. Cazalet and Children, and Daughters of A. Wertheimer, Esq.* The last is a masterpiece.

Sir Edward J. Poynter, president of the academy, contributed but one picture to the exhibition, a version in oil of a water-color of 1899, entitled *Helena and Hermia*. It represents two classic maidens, on a marble seat covered with an orange cushion, under a laurel hedge beside a great pine trunk, working on a sampler. The studies for the background, which disclose an expanse of water and mountains, were made at the *Lake of Orta*.

Sir Laurence Alma-Tadema's usual classical and archeological composition, entitled *Under the Roof of Blue Ionian Weather*, is concerned with lightly draped, garlanded figures, grouped about a semicircular lounge of white marble. His portrait of *Prof. George Aitchison* is for the *Royal Institute of British Architects*, of which he was president in 1896-'99.

Edwin A. Abbey, another American academician, sent a large canvas entitled *Crusaders Sighting Jerusalem*, one of the most successful pictures of the year. Three Knights Templars, in chain mail and tabards showing a great cross, have gained a height in advance of their fellows, seen in the distance below, and are eagerly looking for the city. One stands erect, holding aloft the great banner; a second, kneeling, directs his eyes heavenward; and the third, kneeling lower at right, holds up before his face his cross-hilted sword.

Seymour Lucas's *Clouds that gather Round the Setting Sun* depicts an incident in the later days of *Cardinal Wolsey*. The yet powerful minister, in the robes of a cardinal, is walking amid the yew hedges of *Hampton Court*, with the red-roofed palace, mellowed by evening light, in the background. Absorbed in meditation, he appears to take no heed of several sumptuously dressed persons who look after him as he passes.

Benjamin Constant sent his *Queen Victoria*, which was first exhibited at the *Paris Exposition* of last year. The Queen is represented in regal attire throned in an alcove of the House of Lords, through whose windows filters golden light. The crowned head is veiled in gossamer lace, which falls over the shoulders and arms, and the bust is crossed by the broad blue ribbon. By command of the King, the west wall of the central gallery was devoted exclusively to this picture.

Hubert Herkomer's *A Zither Evening with my Students* in my Studio illustrates an incident in the history of the *Bushey Art School*, founded by himself, which is sufficiently explained by the title.

Other noteworthy pictures were *Luke Fildes's* portrait of *The Hon. Mrs. Marshall Brooks, E. Blair Leighton's The Accolade, B. W. Leader's The Weald of Surrey, J. W. Waterhouse's The Mermaid, and Sheridan Knowles's Home Again*, the last representing a soldier returned from the wars.

London: New Gallery.—The winter exhibition was devoted to the works of *Sir W. B. Richmond*, of which 495 were shown. It represented all the phases of his painting under the several influences of *Millais, Burne-Jones, Watts, and Leighton*. One of the most interesting pictures was *The Sisters*, painted in 1864, representing the three daughters of the late *Dean Liddell*, for the youngest of whom *Alice in Wonderland* was written.

The fifteenth summer exhibition comprised nearly 500 works, including noteworthy figure-pieces and portraits and good landscapes and marines. Mr. Sargent contributed two portraits, Mrs. Garrett Anderson and the Duke of Portland. Mr. Watts sent four pictures, one of which is entitled *Greed and Labor*, allegorical figures grandly and broadly treated. A second, *The Slumber of the Ages*, represents a weary woman with her head thrown back asleep, holding in her arms a wondering child. *Trifles Light as Air*, a third canvas, represents a swarm of *amorini*, naked baby shapes, swaying and drifting in air against a sky of delicate blue and gold, like a cloud of insects.

Sir George Reid, the antithesis of Mr. Sargent, contributed a full-length portrait of the Earl of Stair, standing, cane in hand, by an ivy-covered wall.

J. J. Shannon's *Lady Carbery and her Children* is a happy effort in decorative portraiture, and the Hon. John Collier's *Rudyard Kipling* is a conscientious attempt to represent the writer as he sees him. Mrs. Evelyn de Morgan sent several pictures suggestive of Burne-Jones, and G. H. Boughton a *Diana of the Goose Pastures*, with jet-black hair seen against the fresh green of willows.

London: Guildhall.—An exhibition of some 200 works by Spanish artists was collected at the Guildhall by the director of the City Art Gallery, including 39 pictures attributed to Velasquez. Among the latter were the *Water-Carrier of Seville*, the *Marquis of Bristol's* portrait of Don Balthazar Carlos when seven years old, the *King's* portrait of Don Carlos, the *Duke of Wellington's* half-length of Pope Innocent X, the *Duke of Devonshire's* *Lady with a Mantilla*, and *Captain Holford's* full-length portrait of Olivares. Among famous *Fortunys* shown was the well-known *Selection of a Model*. *Pradilla's* *Boabdil Surrendering the Keys of Granada*, *Alvarez's* *Seat of Philip II*, lent by the Emperor of Germany, and examples of *Madrazo* and other noted modern artists were also shown.

London: Miscellaneous.—The picture sales of 1901 were remarkable for the sale of Hoppner's portrait of *Lady Louisa Manners*, afterward *Countess of Dysart*, for the large sum of £14,752 10s., the highest price ever paid for a single picture at a public auction in England, though *Raphael's* *Madonna dei Candelabri* was bought in at the *Novar* sale in 1878 for £20,475. *Lady Manners* is represented in this beautiful work in peasant costume, with a straw bonnet tied under the chin, standing against a pleasing landscape background. Hoppner's full-length portrait of Mrs. Farthing also was sold at the same sale for £8,400. A remarkable portrait of *Louisa, Duchess of St. Albans*, by Sir Thomas Lawrence, fetched £1,680.

At the sale of the pictures of the late Mr. Alfred Buckley, an original sketch by Rubens for the famous altar-piece in *Antwerp Cathedral*, was sold for £3,360. It is a triptych, the center of which shows the cross of Christ raised by seven men, with a group of Roman soldiers and the two thieves, one on the cross, in the background. On the left wing are soldiers on horseback and the two thieves being led to crucifixion, while on the right are *St. Mary* and *St. Joseph* with five other figures.

At the sale of the collection of Mr. Arthur Kay, an *Annunciation* by *Andrea da Solario*, signed and dated 1506, was sold for £2,100. A *Philip IV* in armor, with lace collar, by Velasquez, brought £997 10s.

At a sale of pictures from various collections, some reached remarkable prices. A *Van derhout* *Hobbema's* *A View of a Woody Country*, interspersed with houses, which brought £2,000. Another *Hobbema*, a typical village scene with a church and a country inn, brought £2,000 10s. Other good prices were: *Murillo's* *Portrait of the Artist*, £2,730; *Gainsborough's* *Mrs. Bacon*, £1,869; *Isaac Henrique Sequeira, M. D.*, £2,200; *Joshua Reynolds's* *Mrs. Willett*, £1,701; *Squire Musters*, £1,680. *J. de Mabuse's* *Jacqueline de Bourgogne when a Child*, £2,520; *G. Romney's* *Mrs. Dorothy Champion Crespigny*, £5,880.

A portrait by *Gainsborough* of *Mrs. Palmer, nee Gascoigne*, was sold in July for £2,047 10s.

At the *Cunliffe Brooks* sale, a fine *Raeburn*, representing a boy in a loose white shirt holding a basket of cherries, was sold for £2,100.

New York: National Academy of Design.—The council consists of the following: President, *Frederick Dielman*; Vice-President, *J. G. Brown*; Corresponding Secretary, *H. W. Watrous*; Recording Secretary, *George H. Smillie*; Treasurer, *Lockwood De Forest*; Francis C. Jones, *J. Carroll Beckwith*, *J. C. Nicoll*, *B. West Cline*, *Edmund C. Y. Turner*, *H. Siddons Mowbray*. The academy numbers 92 academicians and 62 associates.

The seventy-sixth annual exhibition (Jan. 5 to Feb. 2), held in the galleries of the *Fine Arts Society*, contained 285 numbers, of which 272 were paintings. The annual prizes were awarded as follow: The *Thomas B. Clarke* prize of \$300, for the best American figure composition, to *William Fair Kline*, for his *The Flight into Egypt*; the first *Julius Hallgarten* prize (\$300) to *W. Elmer Schofield*, for his *Winter Evening*; the second *Hallgarten* prize (\$200) to *Clara T. McChesney*, for her *A Good Story*; the third *Hallgarten* prize (\$100) to *Matilda Browne*, for her *Repose*; the *Norman W. Dodge* prize of \$300, for the best picture painted in the United States by a woman, to *Mary Theresa Hart* for her *Portrait of James M. Hart*; and the *Inness Gold Medal*, for the best landscape in the exhibition, to *Bruce Crane* for his *The Golden Grain*.

The seventy-sixth exhibition, though smaller than some preceding ones, showed a distinct advance in merit. Among the noteworthy pictures were *Horatio Walker's* *Plowing*—the *First Glean*, *Alden Weir's* *New England Village*, *James D. Smillie's* *A Normandy Barn-Yard*, *J. C. Nicoll's* *Corbière Light*, *Thomas Moran's* *Shoshone Falls of Snake River, Idaho*, *Bruce Crane's* *The Year's Wane*, *W. Whittredge's* *Primitive Forest Brook*, *Carroll Beckwith's* *The Hamadryad*, and *George H. Bogert's* *Passing Shower*—*Holland*. Among the best portraits were *F. P. Vinton's* *John Harsen Rhoades*, *R. W. Vonnoh's* *Mrs. M. E. Porter*, *Daniel Huntington's* *A. Cleveland Coxe*, *Alfred Q. Collins's* *John M. Bowers*, and *Mary Theresa Hart's* *J. M. Hart*. *Daniel C. French* exhibited two full-length plaster figures, entitled *Architecture and Painting* and *Sculpture*, intended for the terminals of the *Hunt Memorial* on Fifth Avenue opposite the *Lenox Library*. They have since been cast in bronze and are now in place.

New York: Society of American Artists.—The twenty-third annual exhibition was held in the *Fine Arts Society Building* from March 20 to May 5. The Board of Control for the year consists of: President, *John La Farge*; Vice-President, *Kenyon Cox*; Secretary, *Bruce Crane*; Treasurer, *Samuel Isham*; Advisory Board, *Herbert Adams*, *William Bailey Faxon*, *R. Swain Gifford*, *William H. Hyde*. The society has 103 members.

The annual prize of \$300, instituted in 1887 by

J. W. Seward Webb, of New York, for the best landscape by an American artist under forty years of age, was awarded to Ben Foster for his *Mists of the Morning*.

The Shaw fund of \$1,500, instituted in 1892 by Samuel T. Shaw, of New York, to be devoted to the purchase of a figure composition in oil by an American artist, was withdrawn by Mr. Shaw, who founded in its place the Shaw prize of \$300, to be awarded annually for the best figure composition in the exhibition painted in oil by an American citizen, portraits to be excluded. This prize was awarded to Sergeant Kendall for his *Fairy Tale*.

An annual prize of \$500, instituted by Andrew Carnegie for the most meritorious oil-painting in the exhibition by an American artist, portraits excepted, was first awarded to John W. Alexander for his *Autumn*. The exhibition comprised 355 numbers.

New York: Miscellaneous.—The collection of the late George L. Crosby, of Chicago, sold at the Waldorf-Astoria in March, brought in the aggregate \$68,990 for 72 pictures. Anton Mauve's *Cattle at the Well* brought the highest price, \$4,500. Other sales were: Felix Ziem, *Grand Canal—Venice*, \$3,000; François Daubigny, *Corbigny on the Nièvre*, \$2,800; Julien Dupré, *Le Regain*, \$2,525; Adolph Schreyer, *Arabs in the Desert*, \$3,150; Auguste Bonheur, *Cattle in the Forest of Fontainebleau*, \$2,400; Corot, *Evening*, \$1,200; Jongkind, *On the Corniche Road*, \$2,025; Charles Jacque, *Sheep in the Moonlight*, \$2,300; Henri Harpignies, *Aux Bords du Loing*, \$2,250; Marie Dieterle, *Cattle Drinking*, \$1,025; Edouard Detaille, *During the Maneuvers*, \$1,400; Clay, *In the Channel*, \$1,275; Schenck, *Sheep in a Storm*, \$1,250; Cazin, *The Chateau Farm*, \$1,700; De Neuville, *Chasseur d'Afrique*, \$1,050; George Inness, *Marine*, \$1,000; Jules Dupré, *The Farmyard*, \$1,800; Crome, *Norwich River*, \$850.

The Metropolitan Museum has acquired, through the liberality of a public-spirited citizen, a portrait of Columbus usually called the *Talleyrand* portrait, because it has been for a hundred years or more in the possession of that family. It bears a Latin inscription ending with the words "*Sebastianus Venetus fecit*," indicating that it is the work of Sebastian Luciani, commonly called Sebastiano del Piombo, who was born at Venice (?) in 1485. As Columbus died in Spain in 1506, and there seems to be no proof that he visited Venice before Sebastian left that city for Rome, it could not have been painted from life. Of the more than 70 alleged portraits of Columbus, not one is certainly traceable to a life sitting.

The full-length portrait of William de Villiers, Viscount Grandison, by Van Dyck, which figured at the Antwerp exhibition of the works of the master in 1899, has been purchased by William C. Whitney, of New York, for \$125,000, the highest price paid in America for a picture, excepting Millet's *Angelus*. It was originally in the possession of the Buckingham family, from whom it passed to Lady Grey and to Jacob Herzog, of Vienna, who exhibited it in 1899.

Another noteworthy purchase is that of Turner's *Rockets and Blue Lights*, by Charles T. Yerkes, who is reported to have paid for it £15,750. If true, this is the record price for a Turner in this country, the largest sum paid heretofore having been 7,600 guineas, for *The Wreckers*, which came to New York from the Pender sale. The Metropolitan Museum has three Turners: *The Grand Canal—Venice*, *The Whale-Ship*, and *Saltsash*. The Lenox Library owns *Scene on French Coast* and *Staffa*, and the Vanderbilts

have *Norham Castle* and the *Fountain of Indolence*. The *Slave-Ship*, one of Turner's most important works, is now in the Boston Museum of Fine Arts.

Buffalo: Pan-American Exposition.—The exhibition of fine arts (May 1 to Nov. 1) was held in the Albright Art Gallery, a permanent marble, fire-proof building in the exposition grounds, to be occupied after the close of the exhibition by the Buffalo Fine Arts Academy. It was one of the most complete and representative exhibitions of American art during the twenty-five years from 1876 to 1901. It comprised four groups. Group 1: Paintings in oil, water-color, pastel, and other recognized mediums, miniatures, and cartoons. Group 2: Sculpture, including medals and cameos. Group 3: Drawings, etchings, engravings, black and white or monotint in oil or water-color. Group 4: Architecture. The exhibition included in all about 1,800 numbers.

The awards made by the Fine Arts Jury were as follow:

GROUP 1.—Gold Medals: Edwin A. Abbey; John W. Alexander; Cecilia Beaux; Robert F. Blum; G. De F. Brush; William M. Chase; William T. Dannat; T. W. Dewing; Thomas Eakins; John McL. Hamilton; Childe Hassam; Winslow Homer, water-colors; Eastman Johnson; John La Farge; Gari Melchers; Frank D. Millet; H. S. Mowbray; John S. Sargent; J. J. Shannon; Edward Simmons; Abbott H. Thayer; D. W. Tryon; Elihu Vedder; Frederick P. Vinton; Horatio Walker; J. Alden Weir; James McNeill Whistler; Irving R. Wiles; Albert Lynch, Peru; William Brymner, Canada; R. Harris, Canada; Homer Watson, Canada; W. B. Bruce, Canada. *Silver Medals:* George R. Barse, Jr.; Edward A. Bell; Frank W. Benson; George H. Bogert; Robert B. Brandegee; F. A. Bridgman; J. G. Brown; W. Gedney Bruce; Bryson Burroughs; Howard R. Butler; Mary Cassatt; F. S. Church; Walter Clark; B. West Clinedinst; Bruce Crane; C. C. Coleman; Louise Cox; Charles C. Curran; Elliott Daingerfield; Arthur B. Davies; Charles H. Davis; Henry G. Dearth; Robert C. Minor; Thomas Moran; J. Francis Murphy; Leonard Ochtman; Benjamin C. Porter; Charles S. Pearce; Charles A. Platt; Henry W. Ranger; Robert Reid; Albert P. Ryder; W. Elmer Schofield; R. V. V. Sewell; Walter Shirlaw; Julian Story; Henry O. Tanner; C. Y. Turner; John H. Twachtman; R. W. Van Boskerck; Robert W. Vonnoh; Douglas Volk; Henry O. Walker; Edwin Lord Weeks; Louis P. Dessar; Charles M. Dewey; F. V. Du Mond; Frank Duveneck; John J. Ennening; Ben Foster; Walter Gay; B. Swain Gifford; Robert Henri; Albert Herter; William H. Howe; George Inness, Jr.; John H. Johnston; Francis C. Jones; William S. Kendall; William F. Kline; Wilton Lockwood; Louis Loeb; Will H. Low; Dana Marsh; George W. Maynard; W. L. Metcalf; W. Whittredge; Walter L. Palmer, water-colors; H. B. Snell, water-colors; A. Sterner, water-colors; R. S. Turner, water-colors; L. F. Fuller, miniatures; L. C. Hills, miniatures; E. Dyonnet, Canada; E. Wyly Grier, Canada; J. Hammond, Canada; Laura Mentz, Canada; J. W. Morrice, Canada; M. R. Correa, Chile; Pedro Lira, Chile; J. E. Harris, Chile; M. Pedro A. Reszka, Chile; L. Romanack, Cuba. *Bronze Medals:* Thomas Allen; W. V. Birney; H. S. Bisbing; Max Bohm; Joseph H. Boston; H. H. Breckenridge; John B. Bristol; Carlton T. Chapman; Lockwood De Forest; Maria O. Dewing; J. H. Dolph; Arthur W. Dow; Edward Dufner; C. Harry Eaton; George W. Edwards; J. W. Finn; Frank Fowler; Kenneth Frazier; Frederick W. Freer; Henry B. Fuller; Gilbert

Gaul; Edward Gay; Edward W. Redfield; F. K. M. Rehn; William M. J. Rice; Julius Rolshoven; Edward F. Rook; Guy Rose; William Sartain; C. Schreyvogel; W. E. Schumacher; Amanda B. Sewell; R. M. Shurtleff; William T. Smedley; Charles J. Theriat; S. Seymour Thomas; William Thorne; Jules Turcas; H. M. Walcott; Edgar M. Ward; Harry W. Watrous; William Wendt; Sarah W. Whitman; Carleton Wiggins; Seymour J. Guy; Birge Harrison; E. L. Henry; Charles Hopkinson; William H. Hyde; William Keith; Augustus Koopman; F. W. Kost; Francis Lathrop; W. L. Lathrop; Albert P. Lucas; Clara T. MacChesney; Mary F. MacMonnies; C. M. McIlhenney; Alfred H. Maurer; Richard E. Miller; Hermann D. Murphy; Rhoda H. Nicholls; J. C. Nicoll; Charles R. Peters; Henry R. Poore; Edith M. Prellwitz; Henry Prellwitz; F. B. Williams; Charles H. Woodbury; M. B. Prendergast, water-colors; Sarah C. Sears, water-colors; Rosina E. Sherwood, water-colors; F. H. Smith, water-colors; W. J. Baer, miniatures; Theodora W. Thayer, miniatures; M. Cullen, Canada; W. Cruikshank, Canada; E. Morris, Canada; A. D. Patterson, Canada; J. St. Charles, Canada; A. V. Puelma, Chile; A. O. Luce, Chile; Onofro Jarpa, Chile; A. Menocal, Cuba. Besides these, 74 artists in this group received honorable mention.

GROUP 2.—Special award of a diploma and medal of honor to Augustus Saint-Gaudens. *Gold Medals:* Paul W. Bartlett; Frederick MacMonnies; Charles Grafty; George G. Barnard; H. A. MacNeil; Karl Bitter; C. H. Niehaus; Richard E. Brooks; Virginio Arias, Chile. *Silver Medals:* Lorado Taft; Louis Saint-Gaudens; Cyrus E. Dallin; Frank E. Elwell; Solon H. Borglum; J. H. Roubush; John Flanagan; Bela L. Pratt; W. S. Alward, Canada; Simon Gazales, Chile. *Bronze Medals:* John J. Boyle; Andrew O'Connor; Victor D. Brenner; William Couper; Charles R. Harley; J. Scott Hartley; Eli Harvey; Edward Berge; Attilio Piccirilli; Señorita Rebecca Matte, Chile; Nicanor Plaza. Besides these, there were 11 honorable mentions awarded.

GROUP 3.—*Gold Medals:* J. McNeill Whistler, etchings; T. Cole, wood-engravings; H. Pyle, drawings; W. J. Glackens, drawings. *Silver Medals:* W. B. Clason, wood-engravings; F. S. King, wood- and copper-engravings; F. Duveneck, etchings; J. Pennell, etchings and drawings; D. S. MacLaughlan, etchings; Gustav Kruell, wood-engravings; F. French, wood-engravings; T. Johnson, wood-engravings; C. D. Gibson, drawings; W. A. Clark, drawings; M. Parrish, drawings; F. V. Du Mond, drawings; W. T. Smedley, drawings; L. Loeb, drawings; A. B. Wenzel, drawings. *Bronze Medals:* S. G. Putnam, wood-engravings; W. M. Aikman, wood-engravings; J. Tinkey, wood-engravings; F. H. Wellington, wood-engravings; Caroline A. Powell, wood-engravings; H. Davidson, wood-engravings; J. P. Davis, wood-engravings; V. Bernstrom, wood-engravings; H. W. Peckwell, wood-engravings; P. Aitken, wood-engravings; R. A. Muller, wood-engravings; E. C. Schladitz, wood-engravings; William Miller, wood-engravings; A. B. Comstock, wood-engravings; C. W. Chadwick, wood-engravings; E. Heinemann, wood-engravings; S. P. Davis, wood-engravings; C. State, wood-engravings; J. W. Evans, wood-engravings; R. C. Collins, wood-engravings; H. C. Merrill, wood-engravings; C. Y. Turner, drawings; Rosina E. Sherwood, drawings; Maude A. Cowles, drawings; W. S. Kendall, drawings; A. I. Keller, drawings; A. Sterner, drawings; S. S. Stilwell, drawings. There were also 13 honorable mentions in this group.

Munich: International Art Exhibition.—The catalogue of the eighth annual exhibition contains 2,689 numbers. Three rooms were devoted to the works of three lately deceased painters, a Böcklin room with 50 exhibitions, a G. G. room with 105, and a Leibl room with 10. Von Lenbach also had a room to himself, devoted to his portraits.

Philadelphia: Pennsylvania Academy of Fine Arts.—The seventieth annual exhibition, which opened on Jan. 12, was in respect to both quantity and quality one of the best of late years. More than 900 numbers were exhibited, of which nearly 600 were oil-paintings, and the remainder mostly water-colors and pastels. The place of honor was given to John S. Sargent's standing portrait of Gen. Ian Hamilton of the British army in South Africa, which was exhibited in London last year.

Miss Cecilia Beaux was represented by a portrait of a seated lady, with bare arms and neck, holding a straw hat in her lap. J. W. Alexander exhibited 11 figure-pieces, and Henry W. Ranger 6 landscapes. The portrait of the French sculptor Rodin and the group entitled *The Mother* won for Mr. Alexander a gold medal at the Paris Exposition. Anders Zorn, the Scandinavian painter, contributed a seated portrait of Halsey C. Ives, of the Cincinnati Museum. James McNeill Whistler was represented by a work entitled *Battersea*, a misty scene on the Thames with a big yellow moon on the horizon and the lights of vessels on the river. Alexander Harrison exhibited several marines and a *Misty Morning*—a French peasant girl walking through a grove of birch-trees. Humphreys Johnston showed his *Mystery of the Night*, a partially nude female figure standing against the sea, which took a silver medal, and Henry van der Weyden his *The Hillside*, which won a bronze medal at the Paris Exposition.

Pittsburg: Carnegie Institute.—The sixth annual celebration of Founder's Day was held in Carnegie Music Hall, Nov. 7. The annual address was made by ex-President Cleveland, his theme being *The Obligations of National Copartnership*. Other addresses were made by Joseph Jefferson, John W. Alexander, of New York, and Robert W. Allan, of London.

The awards of the International Art Jury of the prizes for pictures in the art exhibition were as follow: Alfred H. Maurer, New York, medal of the first class (gold), with an award of \$1,500, for his picture entitled *An Arrangement*; Ellen Wetherald Ahrens, Philadelphia, medal of the second class (silver), with an award of \$1,000, for picture entitled *Sewing—A Portrait*; Edmund C. Tarbell, Boston, medal of the third class (bronze), with an award of \$500, for picture entitled *The Venetian Blind*. Two others received honorable mention—Mary L. Macomber, of Waverley, Mass., for a picture entitled *The Hour-Glass*, and Henri Le Sidaner, of Paris, for a village street scene entitled *Light*.

The exhibition, which contains 247 numbers selected from 600 contributions, is one of the strongest shown at the institute. Thirty-five New York artists are represented in it. Among noteworthy pictures, besides the prize-winners, are a portrait of Rodin, the sculptor, by J. W. Alexander; *The Sculptor*, by George De Forest Brush; *The Japanese Print*, by William M. Chase; *The Close of Day*, by Benjamin Foster; and *The Breeze*, by Louis Loeb.

Venice: International Art Exhibition.—The works of 160 artists were represented, out of a total of 550 who sent in 2,200 pictures and sculptures. The large central gallery was interna-

mal, and among the other rooms special galleries were assigned to special artists. One of these contained 20 examples by Rodin, of which his plaster group *Les Bourgeois de Calais* was bought for the Venice New Gallery. In the International Gallery was hung J. Lavery's portrait of Mrs. Brown Potter on horseback, and excellent portraits by J. S. Sargent. Lenbach's wonderful portrait of Bismarck was exhibited on an easel.

Miscellaneous.—An interesting art note is that the famous wall-painting *The Last Supper*, by Leonardo da Vinci, in the old refectory of the Convent of Santa Maria delle Grazie, Milan, is once more in the hands of restorers. This noted picture, finished in 1498, which is 14 feet 10 inches high by 28 feet 3 inches long, has suffered many vicissitudes. Its colors, mixed with a defective oil medium, caused it to fade rapidly, until it became little more than a shadow of its original self. In 1726 it was repainted by Bellotti, and in 1770 by Mazza. In 1796, when the refectory was made into a stable against Napoleon's orders, the picture was greatly damaged by dragoons, and in 1800, when the room was flooded for fifteen days, it received further injury. In 1883 it was again repainted by Barozzi. The picture is best known by Raphael Morghen's engraving, but this was not made from the original picture, as generally supposed. Morghen engraved it in Florence from a drawing by Teodoro Matteini, who undoubtedly took many details from a copy of the original by Marco d'Oggionno, now in the Royal Academy, London, in which the heads are not closely copied. The present restoration is said to be in the hands of three eminent experts, one a bacteriologist, who are to do all that modern science can suggest to insure the preservation of this celebrated work.

The long-lost portrait of the Duchess of Devonshire, by Gainsborough, whose disappearance for a quarter of a century has aroused the curiosity of art lovers, has at last come to light, and found its way back to its owners, the Messrs. Agnew, of London. This famous picture, a full-length well known through engravings, was exhibited at the Royal Academy in 1783. It passed to a Mrs. Maginnis, who sold it for £50 to Mr. Bently, who sold it in turn to Wynn-Ellis for £63. At the Wynn-Ellis sale in 1876 it was purchased by the Messrs. Agnew for 10,100 guineas. When on exhibition at the gallery of the New British Institution, Bond Street, London, it was cut from its stretcher and stolen, during the night of May 26-27, 1876, by persons unknown. Rumors of its recovery have been frequent, but none have been verified until now. It is said to have been found in Chicago through the efforts of an agent of the thieves, who are reported to have received \$25,000 for its return. It is also reported that its owners, the Messrs. Agnew, sold it, soon after its recovery, to Mr. J. Pierpont Morgan for \$125,000.

Another theft of a valuable picture is reported from Rome, where the masterpiece of Sassoferrato, the *Madonna del Rosario*, has disappeared from the Church of Santa Sabina, on the Aventine. It is an upright picture rounded at top, measuring 4 by 2½ feet, and represents the Madonna and Child enthroned. The Child, seated on the Virgin's knee, hands a rosary to St. Catharine of Siena, who kneels on the right, while the Virgin gives a similar one to St. Dominic, represented as a young man with flaxen hair and beard, who kneels on the left. Above are flying cherubs, and below, at the foot of the throne, are white lilies and a wreath of roses.

An extremely interesting art and archeological

discovery is the finding by sponge-divers near the island of Ceregotto, the ancient Anticythera, off Cape Malea, the southernmost point of the Peloponnesus, of what are apparently the remains of an art-laden vessel, perhaps a Roman galley bearing the spoils of Greece to enrich the Imperial City. Among the articles recovered are bronze and marble statues and fragments of statues of the best period of Greek art, the fourth century B.C., many corroded by long immersion in sea water, but some in good preservation, especially those that had been buried in the sand. The most important bronze recovered is a life-size *Hermes*, of which the head, bust, and arms are in excellent preservation, while enough of the body and legs have been found to insure a complete restoration. It is an admirable work of the period of Praxiteles and Lysippus, the cast of the features resembling that of the *Hermes* of Praxiteles found at Olympia, but more noble and dignified. Another bronze statue, of a youth, is a remarkable work of the last half of the fifth century B.C., and a third, a little later, represents the muscular style of the Argive and Sicyonian schools. Other finds are a marble statue of a youth, life-size, numerous fragments of bronze and marble statues, and a beautiful bronze statuette of *Apollo*, without a head, standing on a base of red marble.

A discovery of importance to the history of early Italian painting is the finding behind the stalls of the choir on a wall facing the apse of Santa Cecilia in Trastevere, Rome, of frescoes representing the *Last Judgment*. They prove to be works of the thirteenth century, by Pietro Cavallini, a Roman painter, pupil of Giotto, according to Vasari, who died in 1344 at the age of eighty-five. The only older series of *Last Judgments* preserved in Italy are those in Sant Angelo in Formis, near Capua, and those on the island of Torcello, near Venice.

Botticelli's *Madonna of the Thorns*, announced last year as purchased by P. A. B. Widener, of Philadelphia, is now said to belong to Mrs. John L. Gardner, of Boston. The picture, discovered in 1899 in the old Colonna Palace, was sold by Prince Chigi to an unknown purchaser for \$65,000. As the Italian laws forbid the exportation of a national art object until the Government experts have examined it and granted the right, Prince Chigi was sued for the sum obtained for the picture, but on appeal the penalty was reduced to \$400. The state appealed from this decision, and the case is still before the court at Perugia. The picture was lately exhibited in London by Messrs. Colnaghi, "by kind permission of Mrs. John L. Gardner."

A new Rembrandt, lately discovered in the palace at Compiègne, has been added to the national collection in the Louvre. The picture, which represents the disciples going to Emmaus, was discovered by a Dutch expert who detected its Rembrandtish qualities under layers of dust and varnish. When the canvas was cleaned Rembrandt's signature was found upon it, and mention of it has since been found in an old catalogue of pictures belonging to the Crown.

The Art Museum of Princeton University has lately acquired a replica or a copy of Titian's *Magdalen of the Hermitage Gallery*, St. Petersburg. The original, a canvas 3 feet 9 inches by 3 feet 3 inches, was painted in 1561 and is signed. It represents the figure of the saint to the hip, scantily clad in a white garment striped with red and black, the well-developed bosom and throat covered by long wavy hair. At the right are a skull and open book, at the left a small vase. Replicas of this picture, with variations, are in

the Naples Museum and the Durazzo Palace at Genoa, and another was lately in the Ashburton Collection, London. There are also numerous late copies. The Princeton picture is said to have been bought in Rome several years ago by a Mr. Tilton, and to have previously belonged to a Venetian landscape gardener, who exhibited it in London and Paris. The critics pronounce it a valuable work of the Venetian school of the time of Titian if not by the master himself.

The Boston Museum of Fine Arts has acquired Frans Hals's Portrait of a Woman, formerly one of the treasures of the collection of the Duke of Buckingham. It passed thence to Mrs. Whatman, of Maidstone, from whom it was purchased by Lawrie & Co., of London, who sold it to T. J. Blakeslee, of the Blakeslee Galleries, New York. The price paid for it by the museum is said to have been \$30,000. The picture, which measures 40" by 50 inches, is undoubtedly one of the finest of the few genuine examples of the master in this country. It represents a woman in a white cap and broad ruff, and with white cuffs turned back at wrists, seated, holding a book in the right hand, and with the left on the arm of the chair. It will hang in the main gallery of the museum.

The Boston Museum of Fine Arts has also acquired, for about \$80,000, an important painting by Velasquez, The Prince Balthazar Carlos and his Dwarf, from the collection of the Earl of Carlisle, at Castle Howard, York. The work was painted soon after Velasquez's return to Madrid from his first visit to Italy, when Prince Balthazar was about three years old. The quaint baby figure, clad in a dark green skirt and coat, embroidered with gold, with a white collar and a steel gorget over his chest, stands in the middle of the canvas. The dwarf, in the lower left-hand corner, holds in his right hand a large silver rattle, and in the left a red apple. The work belongs to Velasquez's second or intermediate period.

FLORIDA. (See under UNITED STATES.)

FRANCE, a republic in western Europe, proclaimed Sept. 4, 1870, after the surrender of Napoleon III at Sedan. The legislative power is vested in the Senate and the Chamber of Deputies, and the executive power in the President of the Republic and the Council of Ministers. The Chamber and the Senate when they meet in joint session form the National Assembly, which elects the President of the republic for seven years and has power to revise the Constitution. The Senate has 300 members, elected for nine years by electoral bodies in the departments composed of the members of the departmental councils and delegates from the communal councils, with the Senators and Deputies of the department. The Chamber of Deputies has 584 members, elected by arrondissements, which are divided into two electoral districts when their population exceeds 100,000. Every Frenchman twenty-one years of age has the right to vote excepting soldiers in active service, and every one who has fulfilled his military duty is eligible excepting functionaries of the state. The ministers are responsible to the Chamber, and when defeated on a vote of confidence they usually resign, in which case the President of the republic selects a new Prime Minister who is able to command a majority, and the latter in consultation with the President selects his colleagues.

The President of the republic for the term ending Feb. 18, 1906, is Emile Loubet, born Dec. 31, 1838. The ministry, constituted on June 22, 1899, was composed at the beginning of 1901 as follows: President of the Council and Minister of

the Interior and of Public Worship, M. Waldeck-Rousseau; Minister of Finance, M. Caillaux; Minister of Justice, M. Monis; Minister of Foreign Affairs, M. Delcassé; Minister of War, Gen. André; Minister of Marine, M. de Lanusse; Minister of Public Instruction, Georges Leygues; Minister of Public Works, P. Baudin; Minister of Agriculture, Jean Dupuy; Minister of Commerce, Industry, Posts, and Telegraphs, M. Millerand; Minister of the Colonies, M. Decrais.

Area and Population.—The area of France is 204,092 square miles. The legal population at the census of March 29, 1896, was 38,517,975. The resident population was 38,269,011, of whom 37,014,389 were French by birth, 202,715 were naturalized Frenchmen, and 1,051,907 were foreigners. The number of marriages in 1899 was 295,752; of births, 847,627; of deaths, 816,233; excess of births, 31,394. The population of Paris was 2,536,834; of Lyons, 466,028; of Marseilles, 442,239; of Bordeaux, 256,906; of Lille, 216,276; of Toulouse, 149,963; of St. Étienne, 136,030; of Roubaix, 124,661; of Nantes, 123,902; of Havre, 119,470; of Rouen, 113,219; of Reims, 107,963. The number of divorces in 1899 was 7,179, making a total of 87,269 since the divorce law was enacted in 1884. The quinquennial census taken on March 23, 1901, shows the population of France to be 38,641,333, an increase of 412,364, compared with 133,819 between 1891 and 1896. Paris shows an increase of 148,000; Marseilles increased by 47,000; Havre by 11,000.

Finances.—The budget estimate of revenue for 1900 was 3,547,932,981 francs, of which 3,492,014,270 francs were receipts in France and 55,918,711 francs revenue collected in Algeria. Of the receipts in France 185,842,339 francs were from the land tax, 96,821,864 francs from the personal and property tax, 62,005,143 francs from the tax on doors and windows, 132,206,471 francs from licenses, and 1,068,350 francs from the first advertisement, making the total from direct contributions 477,944,167 francs; 7,106,700 francs came from taxes on property in mainmort, 2,730,070 francs from mining royalties, 5,240,000 francs from verification of weights and measures, 336,000 francs from inspection of pharmacies, etc., 12,929,480 francs from the tax on horses and carriages, and 9,434,899 francs from the taxes on societies, billiard-tables, velocipedes, etc., and the military tax, making the total from taxes assimilated to direct contributions 37,777,149 francs; 52,523,300 francs were the income from domains and forests, 21,647,300 francs coming from domains and 30,876,000 francs from forests; 533,085,001 francs came from registration, 184,536,201 francs from stamps, 5,104,501 francs from the tax on bourse operations, 70,647,500 francs from the tax on income from securities, 445,148,850 francs from customs, 401,584,000 francs being import duties, 7,209,000 francs charges for statistics, 7,899,000 francs navigation dues, 6,013,850 francs divers other dues, and 22,443,000 francs the tax on imported salt; 659,867,000 francs came from indirect taxation, 508,128,000 francs being the tax on drinks, 11,219,000 francs the salt tax, 5,905,000 francs charges on shipments of dutiable articles, 1,784,300 francs the duty on oil, 8,281,000 francs the duty on candles, 2,856,000 francs the vinegar duty, 63,741,000 francs the tax on traveling by express-trains, and 52,525,700 francs various other taxes; and 182,982,500 francs came from the excise and customs duties on sugar, making the sum of the tariff and internal revenues 2,081,371,553 francs; 713,825,363 francs were the profits from monopolies and Government industrial establishments, 448,851,000 francs coming from

shes, tobacco, and gunpowder, 195,483,470 francs from the post-office, 54,848,640 francs from telegraphs and telephones, and 17,642,250 francs from various enterprises; 56,801,180 francs came from miscellaneous sources, 5,100,000 francs being savings-bank profits, 253,500 francs the money received from sales of Government publications, 4,494,030 francs receipts from railroads, 765,680 francs revenues from the colonies, 1,200,000 francs fees received by diplomatic and consular representatives, 3,722,030 francs fees for patent rights on inventions, 4,213,000 francs the produce of prison labor, 2,555,000 francs savings in the expenses of the departments, 30,498,220 francs various repayments, and 3,999,720 francs miscellaneous and accidental receipts; and 68,771,564 francs were *recettes d'ordre*, balanced by disbursements. The total expenditures authorized in the law of April 30, 1900, were 3,547,863,008 francs, of which 3,476,809,184 francs were for France and 71,053,824 francs for Algeria. Of the expenditure in France 1,242,653,162 francs went for the service of the public debt, of which 692,157,850 francs were for interest on the consolidated debt, 319,100,110 francs for terminable debts, and 241,395,202 francs for floating debt; 14,075,560 francs were the expenses of the public powers, 1,700,000 francs going to pay the salary and household expenses of the President and 12,375,560 francs the expenses of the Senate and Chamber; and 1,705,077,545 francs were voted for the general services of the Government. The sum allowed for the Ministry of Finance was 20,117,610 francs, of which 9,521,470 francs were for the central administration; the appropriation for the Ministry of Justice was 35,608,933 francs; the Ministry of Foreign Affairs required 16,283,100 francs; the vote for the Ministry of the Interior was 112,966,454 francs, of which 19,522,197 francs were devoted to administration, 18,322,744 francs to public safety, 16,460,417 francs to prisons, 12,349,000 francs to subventions, 10,566,118 francs to charities, and 1,759,000 francs to various expenses; the sum devoted to Public Worship was 42,986,978 francs; the amount granted to the Ministry of War was 659,237,500 francs, and to the Ministry of Marine 312,776,332 francs; the Ministry of Public Instruction and the Fine Arts received 227,607,178 francs, of which 208,154,163 francs were for the schools and 19,453,015 francs for art; the appropriation for the Ministry of Commerce and Industry was 38,842,553 francs, including 35,521,358 francs for commerce and industry and 3,321,195 francs for the service of the posts and telegraphs; the Ministry of the Colonies obtained 106,493,358 francs, and the Ministry of Agriculture 31,607,678 francs; the expenses of the Ministry of Public Works were estimated at 81,039,470 francs for ordinary and 113,497,379 francs for extraordinary purposes, making a total of 194,536,849 francs, the ordinary expenses being made up of 28,490,970 francs for administration, 31,291,200 francs for roads and bridges, 12,350,000 francs for inland navigation, and 8,907,300 francs for harbors and lighthouses, the extraordinary of 3,975,000 francs for roads and bridges, 12,050,000 francs for inland navigation, 13,226,500 francs for railroads, 12,064,000 francs for harbors and lighthouses, 71,718,579 francs for annuities due to railroad companies, and 463,300 francs for other works; the cost of *régie* and the collection of revenue was 404,508,755 francs, of which 28,961,590 francs were allocated to direct contributions, 18,721,540 francs to registration, domains, and stamps, 32,521,590 francs to customs, 40,923,520 francs to excise, 84,604,933 francs to Government manufactures, 60,000 francs to foreign affairs, 184,733,999 francs to posts and

telegraphs, and 13,981,583 francs to forests; the repayments amounted to 40,494,162 francs. The special services included in the budget as *recettes d'ordre* are represented by the total of 135,960,691 francs, of which 4,839,700 francs pertain to the mint, 6,622,050 francs to the national printing-house, 16,252,429 francs to the Legion of Honor, 17,352,512 francs to the naval invalid fund, 751,500 francs to the Central School of Arts and Manufactures, 48,622,000 francs to state railroads, 11,728,500 francs to the railroad and port of Réunion, and 29,792,000 francs to the national savings-bank. The actual ordinary revenue in 1898 was 3,619,946,888 francs, and the expenditure was 3,527,535,605 francs.

The capital of the public debt on Jan. 1, 1900, was 30,055,398,099 francs, of which 22,001,914,539 francs represent the consolidated debt, 3,836,833,000 francs amortizable 3-per-cent. *rentes*, 189,633,930 francs the Morgan loan, 1,313,655,624 francs annuities guaranteed to railroad companies, 531,154,244 francs obligations incurred for local railroads and school buildings, 88,743,000 francs expenses incurred in Madagascar and Siam, 87,206,702 francs annuities of the savings-bank, 26,710,861 francs schoolhouse debts, 30,723,357 francs debts incurred for the improvement of rivers, canals, and harbors, 730,191,891 francs railroad annuities, 6,038,770 francs various annuities, 1,054,106,181 francs the floating debt, 37,276,000 francs short-timed treasury loans, and 121,210,000 francs a special war account under the law of Feb. 17, 1898.

The Army.—Every Frenchman at the age of twenty is liable to conscription. Active service is for three years except in the case of students, who serve one year only on the condition that they complete their studies. Soldiers who can read and write if they attain military proficiency at the end of the first year may have indefinite leave of absence. There are 145 regiments of infantry of the line, each composed of 62 officers and 1,591 men; 18 regional regiments, each composed of 51 officers and 1,560 men; 30 battalions of chasseurs, having 4 or 6 companies of 19 officers and 552 men; 4 regiments of zouaves, each composed of 73 officers and 2,551 men; 4 regiments of Algerian tirailleurs, each composed of 103 officers and 2,632 men; 2 regiments of the Algerian foreign legion, each of 5 battalions of 4 companies; and 5 battalions of African light infantry. The cavalry consists of 13 regiments of cuirassiers, 31 of dragoons, 21 of chasseurs, 14 of hussars, 6 of African chasseurs, each regiment composed of 37 officers and 792 men, with 722 horses; and besides these regiments there are 8 remount companies of 299 men, 3 regiments of spahis in Algeria, and 1 regiment of Tunisian spahis. The field-artillery consists of 40 regiments, comprising 428 mounted, 52 horse, and 16 mountain batteries, and there are 4 mounted and 8 mountain batteries in Algeria and Tunis. The foot-artillery consists of 16 battalions of 6 batteries, and in Africa there are 4 batteries. The engineers consist of 6 regiments of sappers and miners of 3 battalions and 1 company of sapper conductors, except 1 regiment which has 4 battalions; and there is 1 regiment of railroad sappers. The train has 12 squadrons of 4 companies and 8 of 3 companies, 12 companies being in Algeria. The peace strength of the army as provided in the military budget for 1901 is 522,013 men, including 27,044 officers, in France; 57,292 men, including 2,255 officers, in Algeria; and 19,460 men, including 691 officers, in Tunis; making a total of 598,765 men, of whom 29,990 are officers, with 143,667 horses. There are 4,418, including 3,717 officers, on the general staff in

France, 386, including 290 officers, in Algeria, and 98, including 74 officers, in Tunis; 3,673, including 426 officers, in the military schools; 2,836, including 2,366 officers, unclassified among the troops; and in the army corps 377,835 infantry, including 13,557 officers, 14,423 administration troops, 70,739 cavalry, including 3,940 officers, 75,064 artillery, including 3,965 officers, 12,849 engineers, including 501 officers, and 10,465 train, including 412 officers, making 561,375 men, including 22,375 officers, in the army corps, of whom 487,373, including 20,492 officers, are in France, 54,905, including 1,387 officers, in Algeria, and 19,097, including 496 officers, in Tunis. The active army comprises 497,419 men, including 26,337 officers, in France; 56,050 men, including 2,224 officers, in Algeria; and 19,317 men, including 687 officers, in Tunis; total, 572,786 troops, including 29,284 officers. In the gendarmerie are 21,601 men, including 624 officers, in France; 1,242 men, including 31 officers, in Algeria; and 143 men, including 4 officers, in Tunis; total, 22,986, including 659 officers. The Garde Républicaine numbers 2,993 men, of whom 83 are officers. The effective strength of the active army was reported to be 534,149 men, and of the gendarmerie and Garde Républicaine 25,715 men. The total strength of the active army and its reserve is about 2,350,000 men; of the territorial army, 900,000 men; of the territorial army reserve, 1,100,000 men. Of this total war strength of 4,350,000 men not more than 2,500,000 are trained and able-bodied.

The Navy.—The effective navy in 1900 comprised 20 battle-ships—the Amiral Baudin, Amiral Duperré, Bouvet, Brennus, Carnot, Charles Martel, Courbet, Charlemagne, Dévastation, Formidable, Gaulois, Hoche, Jauréguiberry, Iéna, Magenta, Marceau, Neptune, Masséna, Redoutable, and St. Louis; 4 cruising battle-ships—the Duguesclin, Turenne, Vauban, and Victorieux; 19 coast-defense vessels—the Amiral Tréhouart, Bouvines, Caïman, Colbert, Friedland, Fulminant, Furieux, Jemappes, Indomptable, Onondaga, Requin, Richelieu, Tempête, Terrible, Tonnant, Tonnerre, Trident, Valmy, and Vengeur; 6 armored cruisers—the Amiral Charner, Bruix, Chanzy, Dupuy-de-Lôme, Latouche-Tréville, and Pothuan; 1 torpedo-cruiser—the Foudre; 7 first-class cruisers—the Châteaurenault, Cécille, Duquesne, D'Entrecasteaux, Guichen, Tage, and Tourville; 14 second-class cruisers—the Alger, D'Assas, Bugeaud, Casart, Catinat, Chasseloup-Laubat, Descartes, Du Chayla, Friant, Isly, Jean Bart, Pascal, Protet, and Sfax; 18 third-class cruisers—the Coetlogon, Cosmao, Davout, D'Estaing, D'Estrées, Éclaireur, Forbin, Galilée, Infarnet, Iphigénie, Laland, Lavoisier, Linois, Nielly, Primauguet, Suchet, Surcouf, and Troude. There were besides 14 destroyers, 8 armor-clad gunboats, 9 unarmored gunboats, 4 first-class and 11 other avisos, 23 transports, 9 sloop gunboats, 10 torpedo despatch-boats, 5 torpedo vedettes, 9 submarine torpedo-boats, 32 squadron torpedo-boats, and 103 first-class, 76 second-class, and 17 third-class torpedo-boats. The vessels building or being fitted out in 1900 were 2 squadron battle-ships—the Henri IV and Suffren; 12 armored cruisers—the Amiral Hubert, Condé, Desaix, Dupetit-Thouars, Duplex, Gloire, Gueydon, Jeanne d'Arc, Kléber, Marseillaise, Montcalm, and Sully; 1 first-class protected cruiser—the Jurien de la Gravière; 9 destroyers—the Épée, Escopette, Espingole, Fauconneau, Flamberge, Pertuisane, Pique, Rapière, and Yatagan. The Framée was wrecked. The battle-ships Charlemagne, St. Louis, and Gaulois, of 11,275 tons, launched in 1895 and 1896, have 16-inch armor, engines of 14,000 horse-power to give a

speed of 18 knots, and an armament of 4 12-inch guns, with 10 5.5-inch, 8 3.9-inch, and 20 smaller quick-firers. The Iéna and Suffren, launched in 1898 and 1899, of 12,052 tons, have armor for protection and a more formidable quick armament, consisting of 8 6.4-inch, 8 3.9-inch, and 34 smaller pieces, and they are fitted with Belleville boilers and engines of 15,500 horse-power to steam 18 knots. The Henri IV, of 6,889 tons, very broad in the beam, carries 2 10.8-inch guns and 7 5.5-inch and 10 small quick-firers. These and all the battle-ships and coast-defense vessels built since 1892, including the Bouvines, Valmy, Jemappes, Charles Martel, Jauréguiberry, Tréhouart, Carnot, Masséna, and Bouvet, have their barbette turrets and protective shields. Two battle-ships of 15,000 tons were begun in 1900, improved and enlarged Suffrens, designed to make 18½ knots, having 4 12-inch guns, mounted in barbette turrets fore and aft, and 18 6.4-inch quick-firers, 12 of them mounted in pairs in turrets and the rest in a redoubt, with a great many smaller ones. Four other vessels of this class are to be built. The armored cruiser Jeanne d'Arc, launched in 1899, of 11,270 tons, has engines of 28,000 horse-power for a speed of 23 knots, and carries 2 7.6-inch, 12 5.5-inch, and 26 small quick-firers. The Montcalm, Dupetit - Thouars, and Gueydon, launched later, of 9,517 tons, carry 2 7.6-inch, 8 6.4-inch, 4 4-inch, and 24 small quick-firers. The Gloire and Condé, of 10,000 tons, have the same armament, and all these vessels are intended to make 21 knots with engines of 20,000 horse-power. The Niclausse water-tube boilers are used in most of the latest cruisers. The Marseillaise and Amiral Aube are made a little larger to carry 2 additional 4-inch guns, but the Sully has the same armament and the same dimensions as the others. The Desaix, Kléber, and Duplex, having a displacement of 7,700 tons and carrying 10 6.4-inch and 16 small quick-firers, follow the type of the larger cruisers. The Jules Ferry, an improved Jeanne d'Arc, her sister, the Léon Gambetta, and 4 others that are to be built, will have a displacement of 12,416 tons and engines of 24,000 horse-power to get the same speed, and the armament will be 4 6.7-inch quick-firers and 16 6.4-inch quick-firers. The Jurien de la Gravière, launched in 1900, is the latest type of deck-protected cruiser, having a displacement of 5,500 tons, a speed of 23 knots with engines of 17,000 horse-power, and an armament consisting of 8 6.4-inch and 12 1.8-inch quick-firers. An armor-clad cruiser of 12,500 tons, the Victor Hugo, was begun at Toulon in the spring of 1901.

Among the new destroyers of the French navy are some of the fastest in the world. The Forban in a sustained trial showed a speed of over 31 knots an hour. The attention of French naval designers has been given much to submarine torpedo-craft, both those that remain under water and those of the submersible kind that have a greater radius of action. Fourteen were building in the beginning of 1901. They are provided with the periscope, by means of which the water around for 1,000 yards is visible to the navigator 20 feet below the surface. Two new destroyers of 303 tons were ordered in March, 1901, also 8 of Francisque type and 11 first-class torpedo-boats. At the same time 3 submarine boats of a new experimental type and 20 of the existing type were ordered. The submarine boats Gustave Zédé, Morse, and Narval proved in trials their ability to maneuver under water at various depths and also their ability to launch torpedoes with a reasonably perfect aim at a distance of 300 meters from the objective hull.

Commerce and Production.—The yield of wheat in 1899 was 128,418,920 hectoliters; of barley, 15,965,790 hectoliters; of oats, 95,301,320 hectoliters; of rye, 23,577,000 hectoliters; of buckwheat, 8,106,430 hectoliters; of corn, 9,002,990 hectoliters; of mixed grain, 3,951,500 hectoliters; of potatoes, 123,476,410 quintals; of sugar-beets, 72,266,270 quintals; of other beets and turnips, 105,126,730 quintals; of colza, 620,163 quintals; of flax, 87,698 quintals of seed and 126,257 quintals of fiber; of hemp, 85,028 quintals of seed and 213,919 quintals of fiber; of tobacco, 227,574 quintals; of clover, 40,549,560 quintals; of hay, 192,700,160 quintals; of wine, 46,810,390 hectoliters; of cider, 20,835,000 hectoliters. The imports of wine were 8,465,000 hectoliters, and exports, 1,713,000 hectoliters. The production of wine in the first ten months of 1900 was 67,353,000 hectoliters, the largest vintage since the appearance of the phylloxera. The value of the crop of chestnuts, walnuts, olives, cider-apples, prunes, and mulberry leaves in 1899 was estimated at 214,921,140 francs; of the orange and lemon crop, 1,372,570 francs. The production of cocoons was 6,993,339 kilograms. The export of cocoons was 70,907 kilograms, value 829,612 francs; export of raw silk, 5,437,359 kilograms, value 145,952,285 francs. The number of horses in France on Dec. 31, 1899, was 2,917,160; of mules, 204,750; of asses, 357,820; of cattle, 13,550,880; of sheep, 21,357,660; of pigs, 6,305,200; of goats, 1,504,390. The production of refined sugar in 1900 was 869,201,000 kilograms, against 737,902,000 kilograms in 1899. The production of alcohol in 1899 was 2,599,558 hectoliters.

The production of coal and lignite in 1899 was 32,933,788 tons; of pig iron, 2,567,388 tons; of finished iron, 842,755 tons; of steel, 1,529,182 tons; of steel rails, 1,253,701 tons. The output of silver and lead ore in 1898 was 20,800 tons; of zinc ore, 82,100 tons; of manganese ore, 31,900 tons; of antimony ore, 4,400 tons; of salt, 999,000 tons.

There were 27,137 boats, of 172,066 tons and 162,626 men, engaged in the French fisheries in 1896, and in the cod fisheries there were 474 boats, of 44,100 tons and 9,741 men. The value of the codfish catch in 1897 was 15,022,960 francs; of the catch in the home fisheries, 113,037,883 francs. The herring fleet in 1899 numbered 542 vessels, of 22,370 tons, employing 6,812 men, and the catch was 369,716 quintals. The codfish fleet was 619 vessels, with 12,372 men, and the quantity of fish and oil brought home was 564,260 quintals; export of dried codfish, 198,044 quintals. The premiums given by the Government for the equipment of vessels and imports and exports of fish amounted to 3,965,339 francs.

The total value of the general commerce in 1899 was 5,848,000,000 francs for imports and 5,533,500 francs for exports. The value of the special commerce was 4,518,300,000 francs for imports and 4,152,600,000 for exports. The special imports in 1900 were 4,408,500,000 francs in value, and the special exports 4,078,000,000 francs. The imports of food products in 1900 were 951,000,000 francs, against 1,506,000,000 francs in 1899, and the exports were 777,000,000 francs, against 676,000,000 francs. The imports of raw materials were 2,738,000,000 francs, against 2,348,000,000 francs, and the exports were 1,090,000,000 francs, against 1,210,000,000 francs; and the imports of manufactured articles were 2,185,000,000 francs, against 1,916,000,000 francs. The special imports of wool in 1899 were 467,400,000 francs in value; raw silk, 370,600,000 francs; wine, 267,400,000 francs; coal and coke, 258,200,000 francs; raw cotton, 177,600,000 francs; oil-seeds, 166,100,000

francs; timber and wood, 157,000,000 francs; cereals, 143,900,000 francs; hides and furs, 139,600,000 francs; coffee, 89,600,000 francs; ores, 87,900,000 francs; silk manufactures, 65,400,000 francs; flax, 56,100,000 francs; cotton manufactures, 43,800,000 francs; woolen manufactures, 40,700,000 francs; sugar, 32,300,000 francs; cattle, 32,100,000 francs. The exports of silk manufactures had a value of 278,300,000 francs in 1899; woolen yarn and raw wool, 271,700,000 francs; woolen fabrics, 264,000,000 francs; wine, 210,200,000 francs; fancy goods, 183,700,000 francs; silk yarn and raw silk, 179,900,000 francs; cotton fabrics, 174,300,000 francs; linen cloth and garments, 142,100,000 francs; leather, 130,400,000 francs; skins and furs, 122,100,000 francs; metal wares and tools, 91,500,000 francs; chemical products, 83,700,000 francs; cheese and butter, 76,200,000 francs; leather goods, 75,900,000 francs; spirits, 47,600,000 francs; refined sugar, 46,200,000 francs. The imports for domestic consumption from the principal countries had in 1899 and 1900 the following values in francs:

COUNTRIES.	1899.	1900.
Great Britain.....	591,000,000	669,000,000
United States.....	427,000,000	460,000,000
Germany.....	360,000,000	412,000,000
Belgium.....	332,000,000	389,000,000
Argentine Republic.....	292,000,000	242,000,000
Spain.....	239,000,000	214,000,000
Russia.....	179,000,000	204,000,000
Italy.....	159,000,000	147,000,000

The exports of articles of French produce and manufacture to the principal foreign countries in the same years had in francs the following values:

COUNTRIES.	1899.	1900.
Great Britain.....	1,239,000,000	1,239,000,000
Belgium.....	606,000,000	593,000,000
Germany.....	457,000,000	460,000,000
United States.....	255,000,000	254,000,000
Switzerland.....	216,000,000	212,000,000
Italy.....	192,000,000	167,000,000
Spain.....	148,000,000	141,000,000
Argentine Republic.....	53,000,000	47,000,000
Brazil.....	67,000,000	38,000,000

Of the total value of general imports in 1899 the value that came by land was 1,748,000,000 francs, and by sea 4,100,000,000 francs, of which 1,767,000,000 francs in value were carried in French and 2,333,000,000 francs in foreign ships. Of the total value of exports 1,915,000,000 francs went in land vehicles and 3,619,000,000 francs in vessels, 1,894,000,000 francs of this sum in French and 1,725,000,000 francs in foreign vessels.

The special imports of gold coin and bullion in 1899 were 318,504,683 francs, and exports 161,646,282 francs; imports of silver coin and bullion were 187,212,189 francs, and exports 219,651,177 francs; imports of bronze coin were 79,080 francs, and exports 602,390 francs; total imports of specie, 505,795,952 francs; total exports, 381,899,859 francs.

The transit trade in 1899 amounted to 961,000,000 francs.

Navigation.—The total number of vessels entered at French ports during 1899 was 101,370, of 24,911,506 tons, of which 80,315, of 12,167,655 tons, were French and 21,055, of 12,743,851 tons, were foreign, and of the French vessels 8,661, of 4,967,828 tons, were engaged in the foreign and colonial trade or in maritime fishing, and 71,654, of 7,199,827 tons, in the coasting trade. The total number of vessels cleared was 101,864, of 25,180,960 tons, of which 80,556, of 12,369,276 tons, were French and 21,308, of 12,811,684 tons, were foreign, and of

the French vessels 8,902, of 5,169,449 tons, were engaged in foreign commerce or in the colonial trade or ocean fisheries and 71,654, of 7,199,827 tons, were coasting vessels.

The French merchant navy on Jan. 1, 1900, comprised 14,262 sailing vessels, of 450,636 tons, with 68,031 sailors, and 1,227 steamers, of 507,120 tons, with 13,701 men in their crews. Of the sailing vessels 150, of 14,507 tons, sailed European waters and 264, of 213,078 tons, navigated the oceans, and of the steamers 237, of 197,067 tons, were engaged in European seas and 173, of 274,861 tons, in the ocean trade. The other vessels were employed in the coasting-trade, port service, or fishing, 13,579 of the total number being under 50 tons. The Government gives bonuses for construction, equipment, and navigation amounting annually to 20,000,000 francs.

Railroads, Posts, and Telegraphs.—The French railroads had a total length at the close of 1899 of 23,576 miles, and the receipts for that year were 1,406,600,000 francs. There had been 252 miles added in twelve months. The cost of construction up to Dec. 31, 1898, was 16,099,000,000 francs. The number of passengers carried in 1898 was 355,873,000; tons of freight, 114,437,000; receipts, 1,377,025,000 francs; working expenses, 707,400,000 francs. The street-railroads on Dec. 31, 1899, had a total length of 2,319 miles.

The postal traffic of France and Algeria in 1898 was 821,603,000 internal and 161,762,000 foreign letters, 45,856,000 internal and 2,621,000 foreign registered letters, 52,909,000 internal and 6,598,000 foreign postal cards, and 1,233,261,000 internal and 137,685,000 foreign newspapers, samples, circulars, etc. The receipts of the post-office were 245,716,510 francs in France and 4,725,810 francs in Algeria. The expenses of posts and telegraphs were 181,394,532 francs in France and 3,326,933 francs in Algeria.

The length of the telegraph lines on Jan. 1, 1899, was 79,396 miles, with 400,341 miles of wire. The number of messages in 1898 was 43,963,811, of which 35,682,829 were internal, 5,759,646 foreign, 1,047,573 in transit, and 1,473,763 official. There were 767 telephone exchanges, with 9,994 miles of line and 117,795 miles of wire. The number of conversations in 1898 was 138,128,082. The long-distance circuits numbered 1,288, with 13,358 miles of line and 37,244 miles of wire; number of conversations, 3,098,801.

Legislation.—The multifarious enemies of the parliamentary republic and the political adventurers with whom they intrigued and conspired—the Royalists, Bonapartists, Conservatives, Clericals, Nationalists, Anti-Semites, Plebiscitary Republicans, and Revolutionary Socialists—who used the Dreyfus scandal as an ambush for a combined attack on the established Government, compelled the ministry that rallied the forces of the republic to resist the insidious machinations of its foes to take some signal measure to emphasize the triumph of the republic and discourage its inveterate opponents. Liberals in France have always looked upon clericalism as the enemy, and under monarchical government as well as in republican times have passed laws to curb clerical influence. The aversion to the republic manifested by officers of the army during its recent time of trial seemed to be the greatest danger, and the disloyalty of the army was attributed by the Radicals to antirepublican bias of the education given by congregational schools in which French aristocrats receive their early training. The militant orders of the regular clergy, such as the Assumptionists and the Jesuits, were believed, moreover, to have given large sums of money in aid of

the recent conspiracies against the republic. A measure against the religious orders was demanded by the Radicals and Socialists, and by Republicans in general. Before the bill was presented to the Chamber the Pope protested against the expulsion of the congregations from France in a letter to the bishops, in which he hinted that France might lose thereby her position as protector of the Christians in the Orient, for if French missionaries did not go to the near and far East, missionaries of other nations would take their place and their own governments would protect them. M. Waldeck-Rousseau framed his associations bill in the form of a general measure, applicable to any association of two or more persons whereby they place in common their knowledge or activity with a purpose other than that of sharing profits. Such association would be governed as to validity by the general principles of law applicable to contracts and obligations. Any association founded for an illicit end or on a cause contrary to the laws, to public order, to good morals, to the national unity, or to the republican form of government, was declared to be null and void. The founders of any association are bound to report at the prefecture the covenants of the association, its title and objects, the place of meeting, and the names, professions, and domiciles of its members and of those who are in any way connected with its administration. Any member of an association which has not been formed for a determined time may withdraw at any time after payment of all dues for the current year in spite of any clause to the contrary in the covenants of the association. The founders, directors, or administrators of an association maintained or reconstituted illegally are guilty of a crime punishable with fine and imprisonment. Associations existing at the time of the promulgation of the law and not previously authorized or recognized were required to conform to the provisions of the law within six months; otherwise they would be considered as dissolved. Societies already authorized must seek fresh authorization. Property contributed by members on entering associations or that had accrued to them and been placed in the common fund since was to be returned to them on dissolution, and property contributed by others to be refunded to the donors or to their heirs or assigns. All the rest of the property of dissolved associations, at least half of their accumulated wealth, was to be turned over, according to an amendment carried in the Chamber, to the projected superannuation fund for working men. When the attention of the legislators was called to the injustice of making no restitution to those members of these communities who, by their exertions and earnings, had increased the wealth of the corporations and the impolicy of turning out into the world without any means of livelihood recluses who were unfitted to compete with ordinary citizens, the bill was changed so as to reimburse members of congregations who could prove that they had contributed to the common property by their labor or activity and to provide a fund for those who would otherwise be destitute. If unauthorized orders do not wind up their affairs and divide their assets among the donors and their heirs and members entitled thereto within six months, then the state steps in and disposes of the property, holding the proceeds in trust for claimants. Moneys not claimed within twelve months are to be employed in the relief or maintenance of children, the aged sick, or incurables for whose benefit no special institution exists. Persons lending their premises for the use of a dissolved associa-

tion are guilty of a punishable offense. Members of religious orders bound by vows of obedience, poverty, and celibacy are debarred from being electors, and members of dissolved orders from teaching unless they prove that their membership has been terminated. The prohibition of congregational schools and of all professional instruction by members of non-authorized orders was considered by many a blow dealt at secondary schools that would have deplorable results, and was, moreover, an infraction of the principle of the liberty of education, which was made a part of the French law in 1830 as regards elementary schools, in 1850 for intermediate education, and in 1875 for higher education, and limited only by the law of 1880 subjecting the qualifications of teachers and school standards to state supervision. A proposal supported by M. Ribot and the Republican Opposition to sever this clause from the bill and enact a separate bill on schools was opposed by M. Waldeck-Rousseau as equivalent to wrecking the bill and overturning the Cabinet, and was rejected by 297 votes to 248. The bill does not apply to the colonies, in some of which the religious orders perform the work of parish priests, while in others foreign orders are established under international treaties, so that the dissolution of French orders would leave to these a monopoly. The colonies will therefore continue to be regulated by decrees. Gifts and bequests for sheltering and reconstituting dissolved orders were declared to be null and void, the burden of proof, according to an amendment emanating from the Clerical side, being placed upon the state. Associations are obliged to furnish an annual balance-sheet on demand of the prefect of police. Associations between Frenchmen and foreigners must have the authorization of the Council of State, and those having a foreign domicile or foreign directors can not be formed without special authorization by Parliament, nor can associations the members of which live in common. All deeds of property to associations whose members live in community were declared null and void. On the motion of a Socialist an amendment was adopted providing for the dissolution of associations whose acts are such as to falsify the normal conditions of buying or selling and of such as menace the integrity of the national territory and the republican government.

The general application of the bill to all associations except commercial ones was dreaded by many, and especially by the Socialists, who feared that it would be applied by some future ministry to objects for which it was not intended, as such measures often have before. M. Groussier proposed a clause giving the right to form associations without authorization or previous declaration, but depriving them of the right to sue unless they do conform to the clause requiring them to register their name, objects, statutes, and membership. By an amendment of M. Fournière this permission is confined to non-religious associations. Every authorized body has the right of legal personality to the extent that it can hold property necessary to the fulfilment of its objects and be represented before the tribunals by its officers. No property not needed for or devoted to the purposes set forth in the registered declaration can be legally held by any association, nor can its funds be invested in the names of other persons. The civil courts are empowered to dissolve unlawful and refractory associations on the motion of an interested person or of the public authorities. In considering applications for authorization, weight is given to any objec-

tions made by the local authorities. Religious associations before receiving authorizations must promise obedience to the bishop of the diocese, and can not obtain it unless the bishop accepts jurisdiction. All schools must keep a register of the birthplace, nationality, antecedents, and diplomas of its teachers. The bill was passed in the Chamber on March 31, by 303 votes to 224. The amendment providing for the payment of a capital sum or an annual income out of the unclaimed assets of dissolved associations to members who have no sure means of existence or who can prove that they have contributed to the acquisition of the common riches of the order was made by the Senate, which passed the bill on June 23, by 173 votes to 99. The bill became law on July 1. The associations bill was in no way directed against the parish clergy, who are state officials, receiving stipends from the Government by virtue of the concordat. The persons aimed at are the members of the religious corporations, auxiliary associations of the Church, having their own special statutes, rivals and competitors often of the parish priests, only partially subordinated to the episcopate, sometimes rebellious against the slight episcopal control to which they are subjected, and responsible only to the Pope and to their superiors, who in the great orders are foreigners. Headed by the Jesuits, the Dominicans, and the Passionists, these societies, with their enormous membership, formed a most prevailing and potent element in the economical as well as the social life of France, and the greatest of them had for their objects nothing connected with French national aims and interests, but the international ends and cosmopolitan policy pursued by the Catholic Church. The Pope instructed the religious orders to apply for authorization if they desired, furnishing the state authorities with a synopsis only of their statutes, not submitting their ancient rules and constitutions. They were allowed to promise submission to the bishops, but only such submission as is conformable to the character of each institution. While episcopal rights over the external or parochial operations of the religious orders are respected, the direct dependence of the latter on the Holy See can not be impaired. There were 152 male and 1,511 female communities in France, of which 5 male and 905 female communities had been authorized prior to the new law, which, however, obliged them to make fresh applications. The 147 male non-authorized communities possessed 2,010 and the 606 female ones possessed 2,282 establishments, besides which the authorized orders had 1,276 male and 272 female establishments that had not been authorized. There were in all 4,292 establishments requiring authorization by Parliament and 12,176 requiring authorization by the Council of State. The time for making applications expired on Oct. 2. Only 1,740 male and 1,227 female establishments sent in applications for sanction by Parliament and 39 male and 2,135 female establishments applied to the Council of State, making 5,141 out of 16,468 establishments, containing over 400,000 inmates, which leaves 11,327 establishments which made no application. The sisters of St. Vincent de Paul, having 1,045 establishments, applied for authorization, and so did 1,352 other female establishments devoted to nursing and other charitable work. The Assumptionists, the Jesuits, the Passionists, and some of the minor orders placed their property outside of French jurisdiction before the term for application expired. The Carmelite, Oblate, and Benedictine nuns took refuge in England, Switzerland, Spain, and Italy. The Jesuits sent their novices to Hol-

land, and members of the order, after protesting against the law as an infringement of their rights as freemen and citizens and as Catholics and ecclesiastics, emigrated to Jersey, Syria, Egypt, and other countries. Belgium received a great number of refugees, but the bishops of that country would not let them open chapels or schools or make collections.

Labor legislation was expected and demanded from the Cabinet that included M. Millerand and M. Baudin and was headed by M. Waldeck-Rousseau. On the other hand, the farming class called for relief. A critical time had arrived for both industry and agriculture in France. The protective duty of 7 francs a quintal on imported wheat had more than the desired effect of stimulating production until France supplied the needs of the population. The production already exceeded consumption, and the growers could no longer obtain the price that made bread dearer in France than in any other country. A bill was passed by the Chamber, but not by the Senate, which would give a bounty of 7 francs a quintal to the farmer who exports wheat. The wine-growers asked for legislation to stimulate the consumption of wine. The bounties which make French sugar cheap abroad and dear at home facilitated a corner in sugar which enriched the manipulators and ruined contractors, leading to the bringing of charges against Deputy Jaluzot, one of the syndicate, and the framing of a bill on time bargains.

Labor strikes in France have always a political bearing, especially strikes in the coal-mines, which have not benefited the miners, and have usually led to increased imports of foreign coal. Optional arbitration was introduced by the law of Dec. 27, 1892, but of nearly 5,000 strikes that have occurred since then only 6½ per cent. were settled according to this law. Early in 1901 a large section of the miners of Montceau-les-Mines went on strike, induced by Socialists of the faction opposed to M. Millerand. The miners belonging to trade-unions, about two-fifths of the miners of France, threatened a general strike in November unless Parliament passed the pending and the promised labor bills, including an eight-hour law, a law insuring a minimum wage, a superannuation law, and others. M. Millerand, in August, 1899, issued decrees defining as conditions of work a weekly rest, the normal duration of labor obtaining in the locality, the normal scale of wages, and limitation of the employment of foreign workmen, for which conditions the Government was bound to stipulate in its contracts and departmental and communal authorities might in theirs. In September, 1899, M. Millerand modified the composition of the Superior Council of Labor, whose duty it is, when requested by the Government, to examine questions relating to labor organization. He made two-thirds of these councils elective, half of these elective members being chosen by masters and half by workmen. In March, 1900, a law was promulgated for the regulation of work in factories, protecting not only children and women, but adult men, and limiting the day's work to eleven hours in mixed workshops where men, women, and children are employed. In September, 1900, M. Millerand, adopting a Belgian law, established councils of work in industrial centers, elected partly by the unions of masters and partly by the unions of workmen, and having for their mission to bring about compromises in labor disputes. Bills to enable labor-unions to own property and to trade and to establish obligatory arbitration in labor disputes were introduced early in the session of 1901. Optional conciliation by jus-

tices of the peace had proved ineffective. The bill on compulsory arbitration provided that in establishments employing more than 50 workers permanent delegates should be elected, 2 for every 50 workmen, to present and explain any demands of the workmen to the employer, who must reply within forty-eight hours; otherwise the men have the right to strike. If he rejects their demands he is bound to appoint arbitrators and the workmen to select their referees, all of them from the district labor council. If the arbitrators can not agree on a settlement within six days, the men can legally cease work by the decision of a majority vote by secret ballot, the majority to consist of at least one-third of the workmen interested. The striking miners of Montceau obtained from M. Waldeck-Rousseau a promise to advance legislation for limiting hours of labor and for pensioning aged workmen from a fund to which both masters and men contribute. An eight-hour day in mines was approved by the Prime Minister. The Minister of Public Works notified all persons having concessions of mines in France, Corsica, or Algeria which were not being worked that their concessions would be annulled if they did not resume operations within three months. In May the miners went back to work at Montceau. Marseilles became the scene of strikes attended with turbulent manifestations. The strike of the dockers drove the commerce of the seaport to Genoa and put a stop to manufacturing while it lasted. The strikers were willing to arbitrate; not so the contractors, in whose favor the strike terminated. Strikes occurred in many of the smaller trades. In the autumn the miners held plebiscites with reference to the labor measures before the Chambers, and decided not to strike. A law to compel storekeepers to furnish seats to saleswomen went into force. A commission drew up sanitary regulations for factories in which lead oxid and other poisonous materials are used or produced based on the British and German regulations. Foreign workmen were excluded from the labor pensions, although in Germany there is no discrimination against foreign workmen. It was proposed to make employers pay a tax for each foreign workman, but the Government rejected the proposal. The labor pensions bill was not completed when the Chambers were prorogued.

The budget embodied a new kind of taxation that excited much controversy—progressive succession duties such as had been introduced in England, but on a scale of progression so sweeping that the measure was called the antimillionaire bill, and was by many expected to drive capital out of France. Gifts in lifetime are taxed at the same rate as inheritances or bequests. A legacy or inheritance in the direct line not exceeding 2,000 francs pays only 1 per cent., rising to 2½ per cent. for 250,000 francs or over; legacies or inheritances from husband to wife pay 3½ to 7 per cent.; from brother or sister, 8½ to 12 per cent.; from uncle or aunt, 10 to 13½ per cent.; legacies from a stranger in blood, 15 to 18½ per cent. For greater sums the tax is made much heavier.

When the net share devolving on the beneficiary exceeds 1,000,000 francs, the succession duty is increased by one-twelfth; for 2,000,000 francs and over, by one-tenth; for 3,000,000 francs, by one-eighth; for 5,000,000 francs, by one-fourth; for 10,000,000 francs, by a half; for 20,000,000 francs it is double; for 50,000,000 francs it is two and a half times as great; for 100,000,000 francs and over it is tripled. Moderate Republicans, Rallied Republicans, Reactionaries, and Nationalists, as well as the supporters of the Govern-

ment, voted in the Chamber for this bill, which received 375 votes.

Gen. André, who retired or disciplined all officers who gave vent to reactionary sentiments and was the first Minister of War to take the stand that the army must be republican, not monarchistic and republican nor neutral, was willing to adopt a measure for the reduction of the term of active service to two years coupled with a scheme for the reenlistment of 50,000 trained soldiers by means of bounties and high pay, an equal number of conscripts having families to support being released on furlough, and for a better supply of commissioned and non-commissioned officers. His agreement with the popular demand for short service was the basis for incessant attacks of the Reactionaries, who represented that he endangered the Russian alliance thereby. The Army Committee of the Chamber discussed the more radical plan of M. de Montebello for the gradual reduction of the term of service in barracks to one year, the cavalry and strong cadres in the other arms being recruited entirely by enlistment for five years. M. Waldeck-Rousseau would not consent to a reduction of the term of service to two years, necessitating the conscription of 5,000 young men destined for liberal professions and 61,000 who provide for families, until the question is canvassed in an electoral campaign. Gen. André proposed to assign seminarist conscripts to hospital duty, but the army committee pronounced against the proposal. The departmental elections in July showed a further decline in the strength of the reactionary parties.

For the purpose of delaying the passage of the associations bill by the Senate, Count de Lur-Saluze, who had fled from France and been condemned in his absence, returned to stand trial. The Senate disposed of the bill before the trial began, the trial was quickly ended without creating popular excitement, and the Royalist leader sentenced to five years of exile. Laurent Tailhade, an anarchist who printed an article inciting to the murder of the Czar while he was in France, was tried in October and condemned to imprisonment despite the protests of some of the foremost authors of France, who extolled the poetry and the profundity of the article and deemed that literature was being persecuted in the person of its author.

Algeria.—The Governor-General administers the civil government of Algeria under instructions from the ministers of the French Cabinet, except in the departments of finance and customs, worship, justice, and public instruction, in which he is advised by ministers of his own. The departments of Algiers, Oran, and Constantine each send a Senator and two Deputies to the National Assembly, and the laws for Algeria are made by the French Chamber, administrative and political questions not covered by legislation being settled by the President and Council of Ministers. The budget is submitted to a superior council composed of delegates of the general councils of the three departments. The Governor-General in the beginning of 1901 was M. Jonnart. Owing to ill-health he resigned, and on May 22 Paul Revoil was appointed to the governorship.

The area of Algeria is 184,474 square miles, not including the Algerian Sahara, which is about 125,000 square miles in extent. The population of Algiers in 1896 was 1,526,667; of Constantine, 1,874,506; of Oran, 1,028,248; total, 4,429,421, including 556,143 in the military territory. The population of the Algerian Sahara was estimated at 50,000. The population of the city of Algiers was 92,120; of Oran, 80,941; of Constantine, 47,-

771. In March, 1901, the population of Algeria was 4,774,000.

The revenue for 1901 was estimated at 55,314,144 francs, of which 12,088,014 francs were derived from direct taxes, 8,747,800 francs from registration fees, stamps, etc., 14,583,900 francs from customs, 4,903,200 francs from monopolies, 4,004,200 francs from domains and forests, 8,286,610 from other sources, and 2,600,420 francs were *recettes d'ordre*. The expenditure for 1901 was estimated at 55,237,675 francs, of which 7,099,234 francs were for administration, 7,569,305 francs for finance, 2,731,300 francs for justice, 8,362,629 francs for education and worship, 11,196,326 francs for public works, 4,326,434 francs for agriculture and forests, 6,418,519 francs for commerce and the post-office, and 7,533,928 francs for colonization, charitable institutions, etc. The military expenses and service of the debt are not included in the budget. The Nineteenth French Army Corps constitutes the military force of Algeria, consisting of 3 regiments of zouaves, 3 of tirailleurs, 2 foreign legions, 3 battalions of light infantry, 3 disciplined companies, 5 regiments of chasseurs d'Afrique, 3 of spahis, 3 remount companies, 12 batteries, 3 companies of engineers, and 9 companies of train. The troops organized for the defense of the southern frontiers and the extension of French authority in the direction of Lake Chad and the Niger are called Saharan tirailleurs and spahis, and are not a part of the Nineteenth Corps. The Algerian force according to the estimates for 1901 consists of 2,255 officers and 55,037 men, with 13,434 horses. There are 207,310 European colonists who have acquired possession of most of the Government lands, but the main part of the arable soil, of which there are about 20,000,000 hectares, belongs to Arab tribes, and is held in common. The native agriculturists number 3,437,304. The crop of soft wheat in 1899 was 1,042,908 quintals; of hard wheat, 5,021,165 quintals; of barley, 7,203,965 quintals; of oats, 658,067 quintals; of corn, 88,756 quintals; of millet, 144,769 quintals; of beans, 141,816 quintals; of potatoes, 300,276 quintals; of wine, 4,502,028 hectoliters; of tobacco, 49,207 quintals. The production of cocoons was 11,650,000 kilograms; of cork from the Government forests, 42,000 quintals. Alfa, olives, dates, flax, ramie fiber, and colza and other oil-seeds are grown. The Government owns 1,759,495 hectares of forest, and communes own 76,919 hectares, while 468,395 hectares belong to private owners. The live stock in 1899 consisted of 204,761 horses, 145,666 mules, 263,208 asses, 200,886 camels, 1,045,102 cattle, 7,523,763 sheep, 3,751,534 goats, and 88,085 hogs. Only 7 per cent. of the animals belong to Europeans. The production of iron ore in 1898 was 474,569 tons; of zinc ore, 29,774 tons; of salt, 21,302 tons. The quantity of phosphate of lime dug was 269,500 tons, valued at 5,390,000 francs. The general commerce in 1899 was 319,846,493 francs for imports, of which 260,421,593 francs came from France, and 346,415,000 francs for exports, of which 279,675,000 francs went to France. The value of special imports was 309,947,382 francs, of which 49,525,789 francs came from foreign countries and French colonies, and of special exports 325,407,699 francs, of which 53,940,079 francs went to foreign countries and French colonies. The chief exports are wine, cereals, sheep, and horses to France, and alfa, tobacco, iron ore, cork, and hides to foreign countries. The number of vessels in the foreign trade entered in 1899 was 1,798, of 1,198,247 tons; cleared, 1,840, of 1,263,217 tons; entered and cleared in the coasting-trade, 9,635, of 1,782,531 tons. The merchant navy consisted on Jan. 1,

1899, of 657 sailing vessels, of 7,420 tons, and 64 steamers, of 10,958 tons. There were 2,156 miles of railroads on Jan. 1, 1900, including 325 miles in Tunis. The telegraphs had a length of 7,260 miles, with 18,496 miles of wire at the end of 1898, in which year 1,892,633 internal, 57,358 foreign, and 83,748 official messages were sent.

The French troops under Gen. Servièrre in the early months of 1901 gradually occupied the oases of Tuat without encountering resistance. The population of Sahela, Metarfa, Gurara, Brinkan, and Isabit accepted French sovereignty, the new Governor-General, M. Jonnart, promising to respect native manners and customs and the rights of the Bedouin chiefs. In February the French marched on Adrar and Timmi. The Berbers on Feb. 18 attacked the post at Timmimum. In the beginning of March the Moorish tribes near El Aricha revolted.

An insurrection of Arabs who had been under French rule since the conquest of Algeria justified the efforts that M. Jonnart was making to reform thoroughly the administration of native affairs. On April 26 the tribe of Beni Menasser sacked the village of Marguerite, and killed several French, Spanish, and Italian colonists and a detachment of gendarmes. A company of Algerian tirailleurs drove the Arabs into the mountains. The tribe, which is the oldest and purest of the ancient Berber stock, is poor and dwindling, and it was driven to revolt by the economic misery caused by an unenlightened administration which had deprived the tribe of its best lands but continued to impose grinding taxes. The Governor-General took the opportunity to admonish the Algerian prefects to pay attention to the material and moral welfare of the natives, as well as to the development of colonization. When he arrived in Algeria in 1900 M. Jonnart announced a series of administrative reforms. In each prefecture he established a bureau of native affairs to study the needs of the natives and the means of improving their agriculture and reviving their ancient arts and industries. The unsympathetic and tyrannical treatment of the natives by the French administrators was the evil that Gov.-Gen. Jonnart chiefly sought to uproot, and the same policy was followed by his successor, who arrived in June and took the control of the troops and the appointment and dismissal of judicial and administrative officials into his own hands, while bestowing a larger initiative upon the local authorities. He determined to overhaul the methods of governing the natives. Algerian Deputies attributed the unrest among the natives in part to intriguing English Protestant missionaries, who inculcated hatred and contempt of the French, and were even said to be supplying the natives with arms. Gov.-Gen. Jonnart considered that violent recriminations and strife between Frenchmen, assaults committed on officials, and riots in Algiers and the other towns resulting from the anti-Semitic agitation, was a more potent cause for excitement among the natives. Max Régis, the anti-Semitic mayor of Algiers, continued his active crusade against the Jews, and his partisans posted inflammatory placards and assailed the character and motives of ministerial officials. He had a personal encounter in public with the editor of a newspaper, and other street disturbances occurred. Gov.-Gen. Jonnart on May 2 prohibited all gatherings in the public thoroughfares and all public meetings having for their object the incitement of citizens against one another. The anti-Semite committees were dissolved by order of M. Lutaud, prefect of Algiers.

Max Régis resigned the mayoralty in order to

attack the prefect of Algiers and the Jews without official restraint. In the remote Sahara the occupation of Tuat was continued. The inhabitants of Khaurin offered resistance, but were brought into submission by Gen. Servièrre. The posts in the Algerian Sudan were revictuated by way of the Niger. The authority of the native chiefs was not disturbed by the French, and these chiefs welcomed French garrisons which guarded their districts against the raids of the Tuaregs and the Moorish Berbers.

Tunis.—The regency of Tunis, nominally under the suzerainty of the Sublime Porte, has been a French protectorate since 1882, and is governed practically by the French Minister Resident General under instructions from the French Ministry of Foreign Affairs. The Bey of Tunis, whose authority is now confined to religious affairs, is Sidi Ali, born Oct. 5, 1817. The heir apparent is his son Mohamed, born June 24, 1855. The Resident General in the beginning of 1901 was R. P. Millet.

The area of Tunis is about 51,000 square miles, with a population of 1,906,000. The Kabyles and Bedouins number about 1,750,000; Jews, 60,000. The French in 1896 numbered 26,678, including 10,144 soldiers. The number of foreigners in 1899 was 79,497, of whom 63,866 were Italians and 12,732 were Maltese. The city of Tunis has about 170,000 inhabitants, of whom 50,000 are Europeans. The revenue for 1901 was estimated at 39,237,154 francs, of which 7,812,200 francs were derived from direct taxes, 9,108,700 francs from customs, 7,476,700 francs from monopolies, 1,198,900 francs from domains, 1,003,200 francs from various sources, 2,023,500 francs from arrears not collected in 1900, and 10,613,954 francs from exceptional sources. The expenditure for 1901 was estimated at 39,122,435 francs, of which 1,680,000 francs were for the civil list, 11,829,710 francs for debt and financial administration, 1,424,700 francs for posts and telegraphs, 3,715,704 for the general administration, 1,056,050 francs for agriculture and forests, 1,042,711 francs for public instruction, 4,743,500 francs for public works, 992,605 francs for the army, etc., 2,023,500 francs to pay arrears from 1899, and 10,613,954 francs for exceptional expenditure. The debt amounted to 142,550,000 francs. The value of imports in 1899 was 55,778,241 francs, and of exports 49,433,460 francs; imports from France were 36,114,691 francs, and exports to France 30,959,504 francs. The principal exports were olive-oil, of the value of 13,787,000 francs; cereals, 11,307,000 francs; zinc, 3,580,000 francs; skins, 1,870,000 francs; wine, 1,795,000 francs; animals, 1,755,000 francs; fish, 1,686,000 francs; phosphates, 1,593,000 francs; alfa, 1,415,000 francs; fruit, 1,225,000 francs; tan, 973,000 francs; silk and woolen cloth, 942,000 francs. The imports from France were 34,263,933 francs in value, exports to France 26,714,110 francs; imports from Algeria were 1,850,758 francs; imports from Great Britain were 5,756,835 francs, exports to Great Britain 3,095,939 francs; imports from Italy were 4,505,064 francs, and exports to Italy 9,386,418 francs; imports from Belgium were 1,365,795 francs; imports from Russia were 2,530,356 francs, and exports to Russia 40,965 francs. The total number of vessels entered during 1899 was 11,489, of 2,433,841 tons, of which 2,754, of 2,287,438 tons, were steamers; French vessels, 1,676, of 1,254,943 tons. The shipping of the regency consists of 403 vessels, of from 10 to 150 tons.

Colonies and Dependencies.—The colonies and protectorates of France, apart from Algeria, which is regarded as a part of France, and the protectorate of Tunis, which is nominally a vassal of Turkey, have an aggregate area estimated at

over 5,000,000 square miles and over 50,000,000 inhabitants. Including the sphere in northern and western Africa conceded to France in recent conventions with England, the colonial empire in that continent alone will be 5,000,000 square miles in extent (see WEST AFRICA). The French part of East Africa is the Somali coast in the neighborhood of Obok, with the adjacent districts of Gallaland (see EAST AFRICA). Some of the islands of the Indian Ocean near the coast of Africa have long been French. The conquest of Madagascar was an event in the modern era of colonial expansion (see MADAGASCAR). Of the smaller islands the most important is *Réunion*, which has been settled with French creoles since 1764. It has an elective Council-General, and is represented in the French Chambers by a Senator and 2 Deputies. The area is 965 square miles, and the population in 1897 was 173,192, including 15,219 East Indians, 4,496 natives of Madagascar, 9,848 Africans, and 836 Chinese. The towns are French municipalities. St. Denis has 32,850 inhabitants; St. Pierre, 27,900; St. Paul, 20,000; St. Louis, 13,300. The military force consists of 500 French soldiers. There were 148 schools, with 14,034 scholars, in 1897. The railroad, 83 miles long, running from the port of Pointe-des-Galets to St. Pierre, became the property of the Government in 1887. Rice and cereals are imported for food. The production of sugar in 1899 was 29,465 tons. The total value of imports was 20,966,343 francs in 1899, that of exports 15,337,475 francs. The value of sugar exported was 8,681,343 francs; of vanilla, 3,358,148 francs. Other exports are coffee, cacao, and spices. France and the colonies took 15,036,683 francs of the exports, and provided 15,824,535 francs of the imports. The number of vessels entered in 1899 was 122, of 157,864 tons. The local revenue in 1900 was 5,425,300 francs, and the expenditure of France was 4,460,203 francs. In 1901 the contribution of France was 4,256,184 francs. The small islands of St. Paul, Amsterdam island, and Kerguelen are dependencies of Réunion. *Mayotte*, with an area of 140 square miles and 11,640 inhabitants, produces sugar and rum. Coffee has been planted on a large scale, and the export of vanilla has become considerable. The local revenue for 1900 was 293,807 francs. The subvention of France in 1901 was 33,000 francs. The Glorieuse Islands have been attached to Mayotte. The *Comoros* have an area of 620 square miles and about 47,000 inhabitants, mostly Mohammedans. Sugar and vanilla are the chief products, and coffee and cloves have been planted. The budgets of the different islands amount to the sum of 259,000 francs. *Nossi Bé*, near Madagascar, having an area of 130 square miles and a population of 9,500, produces sugar, rum, coffee, rice, vanilla, and tobacco. *Sainte Marie*, north of Madagascar, has an area of 64 square miles and 9,500 inhabitants.

The French possessions in India were reduced after the defeat of Napoleon to the towns of Pondichery, Karikal, Shandernagar, Mahé, and Yanaon, having an aggregate area of 196 square miles and a population in 1899 of 280,462, of whom less than 1,000 are Europeans. There were 271 schools with 16,163 scholars in 1897. The local revenue in 1900 was 1,135,678 francs. The expenditure of France in 1901 was 494,083 francs. The leading export is oil-seeds. The imports at Pondichery and Karikal in 1899 amounted to 4,661,938 francs, and exports to 9,253,144 francs; the number of vessels entered at the two ports was 405, of 509,422 tons; cleared, 404, of 509,012 tons.

French Indo-China is a modern empire acquired in Asia by successive conquests and annexations, beginning with the establishment of French rule in Cochinchina and Cambodia under Napoleon III. Annam, Tonquin, and Laos were annexed between 1884 and 1893. The latest acquisition is the territory of Kwang-Chi-Wan, on the coast of the Lien-Chau peninsula, opposite the island of Hainan, leased for ninety-nine years from the Chinese Government in April, 1898, with the islands commanding the entrance to the bay, which were transferred in November, 1899. The area of Indo-China is about 263,000 square miles, and the population is estimated at 22,400,000. The Governor-General, residing at Saigon, is Paul Doumier. He is assisted by the Superior Council of Indo-China, composed of the chief military and naval commanders, the Lieutenant-Governor of Cochinchina, the residents in Tonquin, Cambodia, and Annam, a representative of the administration of Laos, the directors of financial control, the judicial service, customs, and the Department of Commerce and Agriculture, the president of the colonial council of Cochinchina, the presidents of the chambers of commerce in Saigon, Hanoi, and Haiphong, of the chambers of agriculture of Cochinchina and Tonquin, and of the mixed chambers of commerce and agriculture of Annam and Tonquin, and two native notables. The general budget for 1900 made the revenue \$20,803,000 in silver, of which \$5,800,000 were derived from customs, \$2,500,000 from the alcohol régime, \$6,000,000 from the opium régime, \$2,200,000 from the salt régime, \$1,800,000 from the rice export duty, and \$2,503,000 from various sources. The expenditures were estimated at \$20,796,000, of which \$4,050,000 were for military expenses, \$3,386,000 for public works, \$2,615,739 for the public debt, and \$10,744,261 for miscellaneous expenses. The separate budgets were 4,439,500 for Cochinchina, \$2,315,587 for Cambodia, \$4,072,200 for Tonquin, \$2,120,016 for Annam, and \$739,000 for Laos, making the total local revenue \$34,489,303, and expenditure \$34,482,303. The expenditure of France in 1901 was 19,436,800 francs, not including special appropriations of 1,084,913 francs for Annam and Tonquin together, 320,012 francs for Cochinchina, and 485,000 francs for Tonquin. The military forces in Indo-China consisted in 1900 of 11,537 French soldiers and 17,023 natives.

Cochinchina has an area of 23,160 square miles, with 2,323,499 inhabitants, as estimated in 1899, comprising 2,054,831 Annamites, 183,659 Cambodians, 6,374 Mois, 2,656 Chams, 65,801 Chinese, 4,130 Malays, 1,477 Indians, 46 Tagals, 4,451 Europeans, and 74 others. There were 376 schools in 1897, with 18,760 scholars. There were 1,688,270 Buddhists. The Catholic converts numbered 73,234. About one-sixth of the area is cultivated. The crop of rice in 1899 was 678,248 tons. The exports of rice in 1900, going to China, the Philippine Islands, and Europe, were 608,998 tons. The imports of merchandise in 1899 amounted to 66,234,008 francs, of which 29,424,961 francs came from France. The exports were 109,178,828 francs, of which 20,365,051 francs went to France. The exports of fish in 1899 were 5,540,500 francs; of hides, 3,547,500 francs; of pepper, 4,903,000 francs; of cardamom seed, 1,717,250 francs; of copra, 1,055,250 francs; of silk, 746,750 francs; of isinglass, 554,500 francs. The cultivation of coffee has been introduced by Europeans, the yield in 1899 having been 240 tons. The number of vessels that visited Saigon in 1899 was 631, of 789,330 tons. There are 51 miles of railroad, and 2 other lines have been contracted for. The telegraphs have a length of 2,276 miles, with 3,840 miles of

wire. Cambodia has an area of 40,530 square miles, with a population estimated at 1,500,000, including 250,000 Chinese and Annamites and 40,000 Malays. Pnom-Penh, the capital, has 50,000 inhabitants. King Norodom is the nominal ruler, but French administrators carry on the Government. The allowance for the King and princes is \$520,510. Rice, betel, tobacco, indigo, the sugar-tree, the silk-tree, pepper, corn, coffee, and cinnamon are some of the products, and cotton is exported, as well as salt fish, tobacco, and rice.

Annam is administered by native officials under French superiors. Thanh-Thai was made King by the French in 1889. The area is 88,780 square miles, and the population is estimated at 6,000,000, consisting of Annamites in the populous lowlands and Mois in the hills. There are 420,000 Christians. The country produces rice, corn, and other grains, areca-nuts, silk, cinnamon, tobacco, sugar, betel, manioc, bamboo, timber, caoutchouc, dyes, and medicinal plants. Iron, copper, gold, and zinc are mined and worked by the natives, who also make crape-cloth and pottery. Sugar and cinnamon are the largest exports. Coal is mined at Tourane, and a railroad is to be built to that point from Hue, the capital.

Tonquin has an area of 119,600 square miles and a population estimated at 12,000,000. There are 400,000 Christians. Hanoi, the capital, has 50,000 inhabitants. The chief product is rice, which is exported to Hong-Kong and thence to China. Sugar, cotton, silk, pepper, oils, fruit, and tobacco are produced also, and coffee has been extensively planted. The value of the imports in 1899 was 45,016,918 francs, of which 24,951,948 francs came from France and French colonies, and the exports were valued at 19,335,971 francs, of which 1,234,648 francs were taken by France and French colonies. The transit trade to Yunnan is about 5,000,000 francs a year, and the products brought down from there are valued at 3,200,000 francs. There are 64 miles of railroad, and contracts have been made for five other lines. Copper and iron are mined, and 244,800 tons of coal were taken from the mines at Hongay and Kebao in 1898.

The Laos territory has an area of about 91,000 square miles and 1,500,000 inhabitants. The capital is Luang-Prabang, which has 40,000 inhabitants. Rice, cotton, indigo, tobacco, and fruits are raised. There are teak forests, and gold, tin, lead, and precious stones exist, and French companies have been formed to work the mines. Owing to difficulties of transport the trade is small. Steamboats have been placed on the upper Mekong above the rapids.

Amy and the Russian port of Vladivostok will be connected by a cable, enabling messages to be exchanged with France independently of English and German lines. The French Cable Company has undertaken to lay cables connecting the French colonies with each other and with France by purely French lines. The French Chambers passed with little discussion a bill sanctioning the arrangements made by M. Doumier with a French syndicate for the construction of the railroad into the Chinese province of Yunnan, first projected in 1889. A concession was obtained from the Chinese Government in the spring of 1898, and in the same year the Chambers approved the project. Gov.-Gen. Doumier went to France in 1901 for the purpose of organizing a company to undertake the construction of the railroad in Chinese territory. The Indo-China Government had already built a good part of the section from Haifong to Vietri, and was building the continuation to Laokai, the total distance between Hai-

fong and the frontier being 237 miles. The length of the Chinese section from Laokai to Yunnan-Sen is 285 miles. The company, which has an authorized capital of 101,000,000 francs, 25,000,000 francs of share capital and 76,000,000 francs of bonds, will have the operation of the whole line, taking over the section to Vietri on April 1, 1903, and the section between that point and Laokai two years later. Half the stock is taken by the Government of Indo-China, and a guarantee is given of 3 per cent. interest for seventy-five years on the bonds, which the colony undertakes to redeem should the company fail. The company will divide the profits with the Government. The exports of Yunnan are at present tin and opium, and the principal article of import is cotton yarn of Indian manufacture. The undeveloped mineral resources of this part of China are believed to be great. Yunnan has copper and excellent coal as well as tin. An extension of the line into the Yangtse basin will tap the richest part of China and divert the trade of Szechuan to Haifong, but the rough mountainous country that the route crosses presents engineering difficulties that will make construction costly. In Yunnan France can not pretend to exclusive commercial or political privileges, having agreed with England on Jan. 15, 1896, that all advantages conceded in that province to either power shall be shared by both. The railroad connecting Phulang-Thuong with Langson has been extended to Hanoi across the northeast part of the Tonquin delta in a direction parallel to the seacoast, while the main line that will penetrate Yunnan crosses the delta in a southeasterly direction from Haifong. A line will connect Hanoi with Vietri. The line from Hanoi to Haifong crosses the delta and conveys the products of the interior of Tonquin to the coast. A railroad is to be built across the delta from Hanoi to Vinh in Annam, and eventually extended to Hue and Saigon, connecting the three colonies of Indo-China with each other. Hanoi, with four railroad lines, is growing rapidly. Insurrectionary disturbances on the frontiers passed off without untoward consequences, but in 1901 several incursions of Chinese pirates occurred, and in an attack on the post of Lungling the Chinese killed 5 Tonquin sharpshooters before they were driven back over the frontier. The Indo-Chinese army contributed 6 battalions to the international forces in China. A revolt of the southern Khas tribes of Laos had to be dealt with in the autumn. The insurgents repulsed the militia and, holding the Mekong river, intercepted communications between Laos and Cochin-China.

New Caledonia is the most important of the French possessions in the Pacific. The Governor is P. Feillet. There is an elective Council-General. The area of the island and its dependencies is 7,700 square miles, with a population in 1898 of 52,756, comprising 19,053 Europeans, 31,874 natives, and 1,829 Asiatics. Of the Europeans 1,762 were officials, 1,714 soldiers, 5,585 colonists, 2,515 liberated convicts, and 7,477 convicts in the penal establishment. Noumea, the capital, had 4,010 free inhabitants. The local revenue in 1900 was 3,407,876 francs. The expenditure of France in 1901 was 6,341,838 francs. Coffee, corn, tobacco, sugar, wine, manioc, and pineapples are produced. The minerals produced in 1898 were 53,200 tons of nickel ore, valued at 2,394,000 francs; 21,000 tons of cobalt ore, valued at 2,100,000 francs; and 14,300 tons of chrome iron, valued at 715,000 francs. The imports in 1899 were 10,958,198 francs in value, of which 6,275,796 francs came from France, and 369,403 francs from French colonies. The exports were valued at 8,913,197 francs, of which

1,480,392 francs went to France and 748 francs to French colonies. The exports of minerals were 7,981,093 francs, and the next largest export was canned meat for the French army of the value of 801,579 francs. Noumea was visited by 127 vessels, of 177,657 tons, in 1899. Progress in both mining and agriculture has increased the prosperity of New Caledonia. Increased exports of ore and coffee have led to a corresponding increase in imports. The climate is favorable to settlers, and the population is steadily increasing. The French colonists raise large families. The employment of convicts in the mines has ceased, and they now are employed only on public works. Labor for the mines was imported from Asia, but found to be costly. Immigration from Dalmatia has furnished some laborers who are preferred to Asiatics. It is proposed to bring Malays from Java to work on the plantations. The demand for nickel and cobalt was greater than the supply in 1901. Hitherto only mines near the sea have been worked with profit; now mines of remarkable richness have been opened in the interior.

The *Isle of Pines*, close to Noumea, having an area of 58 square miles and a population of 600, is now used as a penal colony, where recidivists are detained. The *Wallis Islands*, with an area of 40 square miles and 4,500 inhabitants, are attached to New Caledonia; also the *Loyalty Islands*, with an area of 800 square miles and 14,800 inhabitants, who raise bananas and cut sandalwood for export. The *Huon Islands* and the small islands of *Futuna* and *Alafi*, which have about 1,500 inhabitants, have been annexed in recent times. The New Hebrides by agreement with England are neutral territory, and a mixed commission of naval officers decides what action must be taken when European lives or property are attacked by the natives or when natives are kidnapped by labor vessels.

The French establishments in Oceania have a total area of 1,520 square miles and about 29,000 inhabitants. They consist of several scattered groups of islands in the western Pacific which are united for administrative purposes under the authority of a single Governor, G. P. T. Gallet, residing in Tahiti. The island of Tahiti has an area of 401 square miles and 10,750 inhabitants. Papeete, the chief town, has a population of 4,282, of whom 2,490 are French. The local revenue in 1900 was 1,237,456 francs. The contribution from the French Government in 1901 was 818,137 francs. Coconuts, oranges, sugar-cane, vanilla, cotton, coffee, and tobacco are grown on the fertile coast lands of the island of Tahiti. The value of imports in 1899 was 2,893,433 francs; of exports, 3,528,432 francs. The export of copra was 1,468,144 francs, of mother-of-pearl, 777,547 francs; of vanilla, 850,957 francs. Food substances and cotton goods are the chief imports. The value of 1,323,327 francs came from the United States, 525,116 francs from New Zealand, and only 329,081 francs from France and the colonies. Of the exports 1,484,402 francs in value went to the United States, 623,761 francs to Great Britain, 432,229 francs to France and French colonies, and 243,501 francs to New Zealand. The number of vessels entered at Papeete during 1899 was 49, of 22,105 tons; cleared, 48, of 23,019 tons. *Moorea*, the next largest of the Society group, has an area of 50 square miles and 1,596 inhabitants. The islands of *Raiatea*, *Tahaa*, *Huakine*, and *Bora Bora* constitute the Windward Islands, which have a population of 4,400. The *Tubuai* and *Raiarava* islands contain about 100 square miles and 1,700 inhabitants. *Rapa* has an area of 15

square miles with 15 inhabitants. The population of the *Tuamotu Islands* is about 5,000; of the *Gambier Islands*, with an area of only 6 square miles, 580; of the *Marquesas Islands*, with an area of 480 square miles, 4,280.

In America France possesses the islands of Martinique and Guadeloupe (see WEST INDIES), the small islands of St. Pierre and Miquelon near the south shore of Newfoundland, and French Guiana on the northern coast of South America. *St. Pierre* and *Miquelon* are groups of small islands, the former having an area of 10 square miles and 5,700 inhabitants, the latter an area of 83 square miles and 550 inhabitants. The people are engaged in the cod fishery. In 1899 there were 184 boats, which caught 448 quintals of fish, valued at 7,404,127 francs. The local revenue in 1900 was 475,708 francs. The contribution from the French treasury for 1901 was 259,178 francs.

French Guiana has an area of about 50,000 square miles and a population estimated at 30,300, including 4,360 convicts undergoing sentence, 80 liberated convicts, and 2,650 on parole. The native Indians number about 1,500. Cayenne, the capital, has a population of 12,300. The military force consists of 371 French soldiers. Not over 8,800 acres are cultivated, although rice, corn, manioc, cacao, coffee, sugar, indigo, and tobacco are grown. Gold-mining has become the most important industry. There are silver, iron, and phosphate mines also. The exports, besides minerals, are rum, coffee, cacao, and cabinet woods. The total value of imports in 1899 was 10,099,731 francs, and of exports 6,844,076 francs. The revenue collected in the colony in 1900 was estimated at 2,498,439 francs. The expenditure of France in 1901 was 6,857,057 francs, including 5,585,700 francs for the penal establishment. The Governor is L. Mouttet. There is an elective Council-General of 16 members. The colony sends a Deputy to the French Chamber. A large region on the southern frontier was claimed by both France and Brazil after the discovery of gold had been made. The dispute was settled by Swiss arbitrators, who gave their decision on Dec. 1, 1900. The boundary is the Oyapoc river up to its source, and from there westward the watershed of the Tumuc Humac mountains. By this award only a small part of the disputed territory falls to France.

FREE-WILL BAPTIST CHURCH. The statistics of this Church, given in the Free-Will Baptist Register for 1901, furnish the following summary: Number of quarterly meetings, 191; of churches, 1,486; of ordained ministers, 1,407; of licensed ministers, 212; of members, 85,109; value of church property, \$3,034,945; amount of contributions for the year, \$30,060. Five local bodies or associations not connected with the General Conference are enumerated, which have together 2,559 members. The educational institutions comprised 3 colleges, 6 schools of academic grade, and Storer Institute for the Colored People, at Harpers Ferry, Va.

The mission in India returned 13 churches, 819 members, a native Christian community numbering 1,708, 55 added by baptism during the year, 13 Sunday-schools, 241 teachers, and 3,171 pupils, 1,984 of whom were non-Christian. A gain of 22 church-members and 386 pupils in Sunday-schools was shown. The missionary force consisted of 27 missionaries, of whom 19 were on the field, and 67 native helpers, of whom 6 were ordained ministers, 8 licentiates, and 12 lay preachers; 99 Christian and 66 non-Christian teachers; and 261 members of Christian Endeavor Societies.

The General Baptists, with whom the Free-Will Baptists seek closer relationships, had in 1900 484 ministers, 423 churches, and 24,775 communicants.

The thirty-first General Conference met at Harpers Ferry, Va., Sept. 3. The Rev. R. D. Lord, D.D., was chosen president. The Conference Board reported concerning its transactions and work for the past three years, and the field-secretary gave an account of his labors, which had been practically those of a home missionary. Since the last General Conference, he had traveled 51,600 miles, given 470 addresses, and collected \$15,200. He reported that the Rev. J. Taylor had given 300 acres of land in New Jersey, subject to the disposal of the conference; concerning the nature and object of the proposed Twentieth Century Loan fund, to be applied to needy churches, which he suggested should be raised gradually; and concerning the slow increase of church-membership, the importance of the Southern field, the need of encouraging the Young People's movement, the Manning Bible School, and a proposed school at Midway, Tenn. Among a number of proposed amendments to the constitution acted upon, two, relating to the office of corresponding secretary, were adopted. Committee reports were presented, emphasizing the importance of maintaining the doctrines of the Church and favoring closer union with the Free Baptists of Nova Scotia and New Brunswick and with the General Baptists. Fraternal messengers were commissioned to visit the conferences of these bodies, as well as the general eldership of the Church of God and the National Congregational Council. The Union Association of Tennessee and the Piedmont Association of West Virginia were admitted as members of the conference. A report on temperance was adopted, in which the liquor traffic, the army canteen, the use of tobacco and other narcotics, and the omission of the temperance lesson from the series of Sunday-school lessons were condemned, and Congress was asked to investigate the effects of the liquor traffic on morals, education, health, material prosperity, etc. A report on Our Country commended the establishment of civil government in Cuba and the Philippine Islands, deplored the existence of the mob spirit and the lynching and burning of criminals, and mentioned such institutions as Storer College of this Church at Harpers Ferry and the Tuskegee Institute as instrumentalities calculated to solve the race problem. The report on the Bible cause referred with satisfaction to archeological discoveries that throw light on the Word of God. The question of establishing a mission in Africa was regarded as the most important one that came before the conference. The Rev. L. P. Clinton had been in Africa about two years preparing the way for the foundation of a mission on the borders of Liberia, and had applied to the conference for assistance and the adoption of his work. The conference voted unanimously to regard the opening in Africa as providential, and advised the Conference Board to advise and assist Mr. Clinton. Appropriations of such amounts as might be received for the specific purpose were authorized to be made for the new mission. The Church has already a prosperous mission in India. The conference recommended that church letters, as a rule, should be sent directly to the church which the applicant intends to join, rather than given immediately to him. While holding that members ought not to be received unless baptized by immersion, the conference decided that if unimmersed persons had been received, they could not be excluded for a refusal to be rebaptized. The expression of the

conference was given in favor of uniform laws of divorce. Pastors were advised to solemnize no marriages of parties who were divorced for other than scriptural reasons. A resolution was passed discountenancing distinctions in the employment of labor on account of color.

Free-Will Baptists in Nova Scotia.—The number of Free-Will Baptists in Nova Scotia is given in the Register as 2,559.

Free-Will Baptists in New Brunswick.—The Free-Will Baptist Church was organized in the province of New Brunswick with 2 ordained elders and 6 churches. The last annual report shows that the Conference has now 43 ordained ministers, 156 churches, and 12,352 members. The General Conference met at Marysville in the first week in October.

Two denominations have been organized and incorporated by members who have withdrawn from the Free-Will Baptist Church. The Primitive Baptist Church was formed by persons who disapproved of the movements of the Free-Will Baptists in the direction of ministerial education, foreign missions, and Sunday-schools, although they have since adopted Sunday-schools. The Reformed Baptist denomination originated in divisions in a number of Free-Will Baptist churches on account of differences of views regarding the doctrine of Christian perfection.

FRIENDS. At the New York Yearly Meeting of Friends the Board of Home and Foreign Missions made statements concerning work in Mexico, among the Indians, and at the High Point Normal and Industrial School for Colored People. The board unites with the Woman's Foreign Missionary Society and the Young People's Society of Christian Endeavor in the support of a mission in China and with the American Friends' Board in work in Cuba. The Woman's Foreign Missionary Society has work in Japan, Africa, and India. In addition to their cooperation with the board and the Woman's Society, the young people are supporting a missionary of their own. A proposition for holding a conference of yearly meetings on temperance was received with approval.

The thirty-eighth annual report of the Friends' Freedmen's Association relates to the condition of the school and farm at Christiansburg, Va.

The Friends in the United States reported to the late Christian Endeavor Convention concerning the work of 402 societies enrolling 11,966 members and raising for home and foreign missions and other purposes \$8,223.

The Friends' Africa Industrial Mission Board is seeking to establish an industrial mission in the Kavairondo country, in East Central Africa, near the Victoria Nyanza. This country is as yet untouched by Christian missions. The people are described as being low in civilization, but friendly and intelligent. The mission will be begun when \$10,000 have been contributed for it; toward this sum the board have \$7,500 in cash and pledges.

The Publishing Association of Friends at Plainfield, Ind., has been in business eighteen years, most of the time in Chicago, Ill., and has built up a considerable trade in books, tracts, and Sunday-school supplies. It publishes six periodicals, all Sunday-school helps, which have reached a combined circulation of nearly 200,000 copies every three months, giving a total of more than 11,000,000 pages of religious matter a year for the young people. It also does a considerable work in the distribution of Bibles and tracts at reduced prices, and in some cases without price.

London Yearly Meeting.—The statistical report of English Friends presented to the London

Yearly Meeting in May accounted for 373 congregations and 17,346 members, an excess of 193 on the membership of the previous year; and 7,797 habitual attendants on meetings not in membership. Three hundred and seventy persons had entered and 109 had left the society. Of recorded ministers, 218 men and 148 women were returned; of elders, 284 men and 287 women; and of overseers, 606 men and 633 women. The number of members in Australia and Tasmania was reported as 504, besides 281 members of English monthly meetings residing in those colonies.

In the Meeting on Ministry and Oversight preceding the London Yearly Meeting, a proposition was offered for continuing the morning meeting in a modified form, but the "sense of the meeting" was ultimately expressed to be in favor of discontinuing the meeting in question, and transferring its functions to the meeting for sufferings. A conversation on the relative positions of the individual and the Church was brought on by an expression in the report from Yorkshire to the effect that in some cases the judgment of the Church as to a person's duty is to be preferred to the judgment of the individual. In this conversation the dangers of extreme individualism were pointed out on the one hand, and on the other the paramount duty of personal loyalty to the spirit, at whatever cost. In a discussion upon the importance of systematic instruction in religious truth, in church history, and the biography of leading Christians, the view was expressed, on the one side, that one of the duties of the meetings on ministry and oversight should be to see that such teaching was given in each congregation where there were children; and on the other side that the direct responsibility should be thrown more upon the parents. In the London Yearly Meeting, the Central Education Board, responding to a request of the previous Yearly Meeting to obtain figures

concerning the number of children who had not membership by birthright because only one of their parents was a member, reported showing that at least 39 per cent. of the children of Friends were of that class, and that great deficiency was revealed in the provisions for their religious training. A committee was appointed to propose to a future meeting a definite scheme for reconstituting the Education Board. Visiting American Friends explained the nature and bearings of the new features in American Quakerism—of the Five-Year Meetings and the Uniform Discipline. It was thought, they said, that the Uniform Discipline would have the result of compacting the Society of Friends in America, of extending its influence, and of checking some excrescences which had caused uneasiness. A committee appointed to prepare a protest against the war spirit brought in a paper entitled *A Plea for a Peaceable Spirit*, disclaiming any consideration of the political aspect of the subject, but insisting on the opposition of Christianity and war, and setting forth that in condoning militarism the Christian Church "destroys with one hand the edifice of love which she seeks to build with the other"; and appealing to the churches to wake to their high rank of "maintaining a faith which shall make no compromise with evil, but penetrate life with the Master's spirit of peace."

Friends' Foreign Missionary Association.

—At the annual meeting of the Friends' Foreign Missionary Association, held in London, May 27, the treasurer reported a general income of £18,870, in addition to which £27,280 had been received for the Indian Famine fund. The expenditures, including £6,769 for India, £5,209 for Madagascar, £3,439 for Syria, and £2,368 for China, had amounted to £20,628. A deficiency of £4,456 had been incurred. The association had decided to make no claim for damages suffered in China.

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GEOGRAPHICAL PROGRESS. Arctic

Regions.—While explorers have been busy in all parts of the world, the operations in the polar regions and the preparations for explorations there have, for the past two years, drawn most attention and aroused the greatest interest. In 1901 several expeditions were started, some for the arctic and some for the antarctic, most of them aided by their respective governments. Of those already in arctic waters are the Peary and Baldwin-Ziegler expeditions from the United States; Capt. J. Elzear Bernier's from Canada; from Russia, those of Baron Toll and Vice-Admiral Makaroff; and from Germany, Capt. Bauendahl's, with a vessel of only 44 tons register.

Dr. Nansen and the Duke of the Abruzzi have joined forces to seek the pole in the *Stella Polare*; Prof. Anschuetz-Kaempke, of Austria, proposes to find his way thither in a submarine boat; and there are besides a German expedition and expeditions to Franz-Josef Land and Stein-Ellesmere Land.

For the south pole three expeditions—British, German, and Swedish—go out under Government auspices, and propose to take each a different portion of antarctic territory to explore on their way to the pole. Something more concerning each of these enterprises is given below.

The farthest point north known to have been reached was made by the exploring party led by the Duke of the Abruzzi, who has received one of the medals awarded each year by the Royal Geo-

graphical Society of England for the most valuable work in geographical discovery. They left Christiania in June, 1899, wintered in Franz-Josef Land, and early the next year proceeded northward by sledge. A part of the expedition, led by Capt. Cagni, who also received an award from the society, went as far north as 86° 33' 49", about 23 miles beyond Dr. Nansen's highest point. The duke was not able to accompany them, having frozen three fingers, which were afterward amputated, on an expedition by sledge which he had undertaken to accustom his dogs to the service. Capt. Cagni's party started from the exploring ship March 11. The cold was bitter and the mercury sometimes fell to 58° below zero. The traveling was difficult, for the ice was very rough wherever it was not covered with heavy snow. In ten days Capt. Cagni and his men had made only 43½ miles to the north of the ship. It was then evident that the party must be reduced in size if a long journey was made, for the provisions would not suffice for long absence; and three men—Lieut. Querini, the guide Felice Ollier, and Alfred Stoekken, machinist—were instructed to return to the ship. Ten days later Capt. Cagni decided to reduce his party still further, and Dr. Cavalli, the guide Savoye, and the midshipman Cardenti were sent back to the *Stella Polare*. They reached it in twenty days, and were surprised to learn that nothing had been heard at headquarters of the missing men. Meanwhile Capt. Cagni, with two alpine guides and one sea-

man, pushed his way to the north. He had food for two months, which 60 dogs dragged on 6 sledges. When the supplies for man and beast began to give out the dogs died or had to be killed. The party struggled on, however, and at last reached Nansen's farthest north, $86^{\circ} 14'$. Then they went on till April 26, when they touched $86^{\circ} 33'$ at about 56° east longitude. The lives of the party would be imperiled if they went farther, and so they determined to turn back. They reached camp on June 23 with 2 sledges and 7 dogs.

Searching parties had been sent out from the ship for the lost men, but no trace was found. Two depots of supplies were left for them at places which it was thought they might reach if they were alive. After the return of the expedition to Italy there was an official inquiry as to the disappearance of the men. All the members of the expedition except the Duke of the Abruzzi thought they could not possibly have survived. Dr. Cavalli testified that when the men turned back the ice was weak in many places and covered with new snow. They could not lose their course, he said, for they knew perfectly the route to steer back to the ship. He believed they had fallen through the ice. The Duke of the Abruzzi said, however, he thought it possible that the men had reached one of the supply stations or at least had found a refuge on some island where they might be able to live, as Nansen did in the same region, upon the game they killed. It was a forlorn hope, but he proposed to act upon the chance that they were alive. In March, 1901, therefore, a search expedition was sent from Norway in the whaling vessel *Capella*, under command of Capt. Stoecken, father of the lost young machinist. The search was unsuccessful. The Baldwin party found at Cape Flora a granite shaft which Capt. Stoecken had set up there a month earlier as a memorial to the lost men.

An account written about the time of the departure of the duke gives details of the equipment: "The total expenses of the expedition are expected to reach \$500,000, of which the King of Italy has contributed a fourth. Some details of the duke's equipment are quite unique. He distributed his baggage among 1,500 boxes, each weighing about 55 pounds, and easily portable, if necessary, upon a man's back. He divided the boxes into four classes: provisions, clothing and equipment, tools and scientific instruments, and, lastly, articles that are useful, but not indispensable. Each class has its special color, and each box is numbered according to the class and nature of its contents. The provisions, consisting of rice, sea-biscuit, preserved meats, etc., have been so divided that each box contains five different kinds of food, in order that the fare may in no case be reduced to one article of food."

The results of the expedition are summed up in Petermann's *Mitteilungen*: "In many respects the experiences of the Italian expedition are of decided importance for future researches that may be carried on from Franz-Josef Land. It is demonstrated that the British Channel is navigable even for large craft, as the *Stella Polare* found very little difficulty from ice. It is probable that when no unusually unfavorable conditions of wind and ice are present, this arm of the sea may be free from ice for a long time each year, and so afford easy access as far as 82° north. For sledge journeys Cagni's experience was almost ideal, though polar explorers will not always be so richly provided with the necessary facilities. As the main object was to penetrate as far as possible northward, of course little could be done in the way

of exploring Franz-Josef Land, especially as the ship was subjected to severe ice pressure soon after the landing, and much labor was required to save the equipment. What was done in the way of exploration there was limited to a journey around Crown-Prince-Rudolf Land by the Duke of the Abruzzi in the early days of September. It was proved that neither to the north nor northwest of this island is there more land, so that Franz-Josef Land has its northern termination at 82° and Petermann Land and King-Oscar Land are non-existent, but owe their presence on the maps of the past twenty-five years to an optical illusion on the part of Payer, probably caused by a bank of fog."

According to Prof. Nathorst, Payer was mistaken in the height of the summit which he named Mount Petermann, supposed to be the highest in Greenland. He gave its height as 3,480 meters; Nathorst makes it 2,500 to 2,800 meters.

All hope of the return of Andrée from his bold attempt to solve the arctic mystery in a balloon has been abandoned. The buoys that have been found were apparently all cast out soon after the start. It is the general opinion of arctic men that the balloon came down within ten days after his ascent in July, 1897, and that he landed in the sea east of Spitzbergen and all hands were lost.

A letter from Tromsø July 11, 1901, says: "The scaffolding built for Andrée's balloon and the cabins he used for his workshops still stand on the edge of the fiord awaiting the disposition of their absent owner—a melancholy reminder, appealing to the sentiment of the Norwegians, who will allow them always to stand as a monument to Andrée, Fraenkel, and Strindberg."

Prof. Nathorst had offered prizes for the recovery of buoys, of which he believes others are still to be found, carried, he thinks probable, by the east Greenland polar current to western Greenland.

The following despatch of Sept. 13, 1901, from North Sydney, Cape Breton, gives particulars of the movements of Lieut. Robert E. Peary, to whose relief the Peary Club sent the steamship *Erik* from that point in July, 1901. The *Windward* was sent in 1900: "The Peary arctic steamer *Erik*, from Cape Sabine, Ellesmere Land, Aug. 20, arrived here to-day. All well. Peary left Fort Conger (latitude $81^{\circ} 44' N.$), where he was last reported March 31, 1900. On April 15 of that year, accompanied by Henson and 5 Eskimos, crossed Robeson channel to the west of Greenland coast, and followed it along on foot and over sea ice to the northward. At Blackhorn Cliffs on April 26 2 natives were sent back, and from Cape Britannia ($83^{\circ} 24' N.$), Beaumont's farthest seen, 2 more were sent back in May. Lockwood's farthest north cairn ($83^{\circ} 24.5' N.$), of May 13, 1882, was opened at 11.40 P. M., May 8. Its records were taken, and at Cape Washington, the headland seen by him 15 miles northeast in 1882, another cairn was erected and a copy of the 'farthest' record and additional memoranda were deposited. Peary, with Henson and the other Eskimo, Ahngmalokto, pushed on, and, at $83^{\circ} 39'$ north, rounded the northern extremity of Greenland, finding the coast at this point to trend rapidly eastward. Here, on the most northerly known land in the world, Peary built a cairn, in which he deposited, in addition to the records of his journey to that point, portions of the flags of his country, of his club, and of his private signal, together with a few other articles interesting as souvenirs. Changing his course directly northward, Peary then struck out over the sea ice for

the pole, but was able to advance only to 83° 50' north, when he was effectively stopped by the broken pack and much open water, absolutely impassable either for sledges or boats. Retracing his steps to the shore, he pushed on along the Greenland coast, all the time eastward, about 160 miles beyond Lockwood's farthest, to latitude 83° north, longitude 25° west, or approximately but little more than a degree from Independence Bay, discovered and named by him, July 4, 1892, the high mountain, then visible to the north, being plainly recognized from his new position to the south. The reconnaissance ended with a definite demonstration of the western and northern coast lines of Greenland, and with one or two small breaks along the eastern coast an exact and accurate chart of the entire archipelago."

Peary's own estimate of his work is clearly set forth in the letter to the secretary of the club, Herbert L. Bridgman, from which the following extracts are taken:

"First, the rounding of the northern limit of the Greenland archipelago, the most northerly known land in the world, probably the most northerly land. Second, the highest latitude yet attained in the Western Hemisphere (83° 50' north). Third, the determination of the origin of the so-called poleocratic ice (floe-berg), etc. Considering that I am an old man, have one broken leg and only three toes, and that my starting-point was Etah, I feel that this was doing tolerably well. It is almost a thousand years since 'Erik the Red' first sighted the southern extremity of the archipelago, and from that time Norwegians, Dutch, Danes, Swedes, Englishmen, Scotchmen, and Americans have crept gradually northward up its shores, until, at last, through the instrumentality and liberality of the club, its northern cape has been lifted out of the arctic mists and obscurity. If I do not capture the pole itself in this spring campaign, I shall try it again next spring."

A pronounced change in the character of the coast was found beyond Cape Washington, the bold precipitous headlands and deeply cut fiords being succeeded by a low, rolling foreland, suggesting possible glaciation at some earlier period, and all along the northern coast much open water was met. Bear, musk-oxen, hare, and lemming were killed in the newly discovered country, affording an ample supply of fresh meat.

Having practically connected his work of eight years before with that of 1900 and completed the determination of the northern boundary of Greenland, Peary, on May 22, turned back, following the line of his outward march, and on June 10 arrived at Fort Conger, having been three months in the field without accident, illness, or serious mishap of any kind to himself or any of his party. Peary sends to the club a complete and detailed chart of his newly discovered coast and other work.

Having eliminated the Greenland archipelago as a desirable route to the pole and no farther advance northward being possible until the opening of the season of 1901, Peary decided that his next attempt would be from Cape Hecla, the northern point of Grinnell Land, and from Fort Conger as a base. Accompanied as in the previous year by Henson and 5 Eskimos, he left Conger April 5, 1901, for the north, by way of Cape Hecla. But after ten days' march along the ice, both men and dogs proved to be out of condition and unfit for the more arduous work certainly ahead of them. Peary therefore returned in good order and without loss to Fort Conger. Late in April, with his entire force, he retreated southward.

The Windward, fast in her winter quarters at

Payer harbor, near Cape Sabine, with Mrs. Peary and Miss Peary on board, prisoners in the ice for nearly eight months, was reached May 6, and here Peary established his headquarters until the auxiliary ship of 1901 should arrive.

Open water came early at Cape Sabine, and on July 2 the Windward extricated herself from the ice and, crossing to the east side of Smith Sound, devoted July to a successful hunt for walrus in Inglefield Gulf. One hundred and twenty-five were captured and landed at Cape Sabine, the Windward recrossing the sound to Etah, Peary's headquarters for 1899-1900, where she awaited the Erik, which arrived on Aug. 4.

Some trouble having arisen with the physician of Peary's expedition, Dr. T. S. Diedrich, he was left behind on the shore of Smith Sound at the Eskimo settlement of Etah, where he insisted upon landing and remaining.

Lieut. Peary intends to make another effort to reach the pole in the spring of 1902.

In the region about Baffin Bay it was thought some intelligence might be obtained of the Fram, Capt. Sverdrup's vessel; but it seems to have been last seen by the natives at Etah about Aug. 17, 1899, although it was reported at Disco that "in March, 1901, a steamer had been seen far off the shore in Davis straits, heading northward, which might have been the Fram."

The Russian expedition under Baron Toll was heard from in April, 1901, when it was at the Gulf of Taimyr, a part having explored the Nordenskjöld Islands.

Another expedition from Russia is that under Vice-Admiral Makaroff. His famous ice-crusher, the Ermak, or Fermak, has been fitted out for the work. "The Ermak is of massive steel and is 305 feet long, 71 feet broad, and 42½ feet in depth. She has a displacement of 8,000 tons, and her engines are of 10,000 horse-power. Propellers in the bow assist in this. She is remarkably shallow forward, so that her bow can be pushed up on the ice, and thus her great weight bearing down upon the ice helps to crush it. She has been submitted to some remarkable tests, and has steamed through sheet ice 4 feet thick and crushed her way through single floes 25 feet thick."

The Danish explorer Lieut. Andrup visited the eastern coast of Greenland in the summer of 1900 in the Antarctic, and mapped a part of that coast previously unknown south of Scoresby Sound. The same summer Capt. Naerøe reached 75° 30' N. on the same coast, the farthest point yet reached by ship. And the Swedish zoologist Prof. Kolthoff traversed the coast from Cape Broer Ruys to Pendulum island. He brought away several young musk-oxen, which are to be acclimatized, if possible, in northern Sweden.

The Canadian explorer Capt. Bernier plans to follow in part the example of Nansen, entering the ice-pack and drifting toward the pole. Much is expected from the American expedition led by Evelyn B. Baldwin, the cost of which is borne by Mr. William Ziegler, of New York. The two ships sailed early in July, the America from Tromsø and the Frithjof from Sandfjord, Norway; and after calling at more northern points to take on the dogs and complete the equipment, proceeded to Franz-Josef Land, which seems to offer the most promising route to the pole. Mr. Baldwin was a member of the Peary arctic expedition in 1893-'94. He has the most extensive transport train ever carried on such a voyage. For moving the supplies and apparatus 400 Eskimo dogs and 15 Siberian ponies will be employed, and 50 tons of specially prepared dog food is included in the equipment. In the exploring party proper there

will be 30 men; if the sailors and other men aboard the vessels be included, the total will probably exceed 75.

The main object of the enterprise is, of course, to reach the pole, but it is promised that extensive and careful scientific observations will be made; and for this purpose instruments of the newest and best designs are provided, and a specialty will be made of photographic work. The equipment includes also three portable houses.

A novel way of reaching the pole is to be undertaken by Prof. Anschuetz-Kaempke, of Vienna, whose plan is to make use of a submarine boat with a crew of five men. The vessel, which is to be driven by a petroleum motor, will be so constructed that it can descend to a depth of 160 feet, where it will be below the greatest depth of ice, and away from the influence of cold and ice pressure. It can stay under water fifteen hours, and the time can be prolonged, if necessary, by the use of compressed oxygen, which will be carried; but as continuous fields of pack-ice do not exceed a maximum diameter of about 3 English miles, it is expected that open places where it can come to the surface will be frequent.

Antarctic Regions.—Three expeditions—English, German, and Swedish—set out for the south pole in 1901.

The Swedish enterprise is under the leadership of Dr. Otto Nordenskjöld (nephew of the famous explorer Adolf Eric Nordenskjöld, who died Aug. 12), who was a member of the Danish expedition to East Greenland last summer under Lieut. Amstrup. Dr. Nordenskjöld has also shared in several Swedish polar expeditions. He sailed from Gothenberg on the Antarctic Oct. 16.

"After leaving South America, Nordenskjöld will sail to Graham Land, south of Tierra del Fuego, where a great opportunity for exploration presents itself."

The German expedition, under command of Dr. Eric Drygalski, sails on a ship named Gauss, in honor of the mathematician who first recognized the importance of the south pole for magnetic observations. "She will go first to Cape Town, and thence to Kerguelen island, a desolate spot recently taken over by the French, where some members of the party will remain to take magnetic observations simultaneously with the ship, which will proceed toward Enderby Land, where a landing will be made and expeditions into the interior organized. Explorations will continue in an easterly direction."

The British, called the National Antarctic Expedition, sailed from Cowes Aug. 6, 1901, in the *Discovery*, which is specially fitted for polar work. It is thus described in the *London Times*: "It is a remarkable fact that the new *Discovery* is the first ship ever built in this country for the express purpose of exploration. Probably no ship, at any rate of her size, was ever more strongly built. The ribs are made of what is known as English oak, though grown in Scotland, and thoroughly well seasoned. They are placed as close as they could well be without actual contact. These ribs will be covered by two skins, as they are called, one of oak and one of greenheart, all thoroughly calked. Inside these will be lined to the thickness of $1\frac{1}{2}$ inch by asbestos plates, and these again will be covered by match-boards. The beams will be such as to bear not only the loads that may be placed upon them from above, but also to resist the enormous side pressures to which the ship may be subjected among the little-known antarctic ice. The deck-beams in the living-rooms are to be covered with soft plates of felt half an inch thick.

"There will be a great sheer in the hull, for the purpose of enabling the ship to cut her way through the ice-fields which she will meet right and left, and her bow will be covered with a dark cover with steel plates. Special arrangements will be made for unshipping the rudder mechanically, and in other respects the latest appliances will be adopted throughout for saving men and labor. Her engines will be of 450 horse-power, and will be capable of steaming about 8 knots. An unusually large space will be allotted to the engine-room, by means of which, among other advantages, a considerable saving of coal will be secured. The vessel will be rigged as a bark. The *Discovery*, at the water-line, will be 172 feet in length, with an extreme breadth of 33 feet; her mean draft will be 16 feet, and her displacement 1,750 tons. She has space enough to carry stores of all kinds for three years. There will be cabins for special purposes, laboratories for the biologists on deck, and others for photographic and other purposes below. Equal care has been taken with the quarters for the crew, and with the sick-berth. A special magnetic observatory will be constructed and fitted on the upper deck to receive a pedestal magnetic instrument. Special care will be taken that no ironwork shall be used for any purpose within a distance of 30 feet of this observatory. Where metal must be used, it will consist of rolled naval brass. The cost will be about £45,000."

The instructions to the commander have the following points of geographical interest: "To explore the ice-barrier of Sir James Ross to its eastern extremity, to discover the land that was believed by Ross to flank the barrier eastward, or to ascertain that it does not exist and, generally, to solve the very important physical and geographical questions connected with this remarkable ice formation." It is added: "If you should decide that the ship shall winter in the ice, the following instructions are to be observed: Your efforts, as regards geographical exploration, should be directed, with the help of depots, to three objects—namely, an advance into the western mountains, an advance to the south, and the exploration of the volcanic region."

As the sphere of action thus lies about Victoria Land, it is a different field from those of the German and Swedish expeditions; and the Scottish, if it should be carried out, is expected to confine its operations to the fourth quarter of the antarctic regions.

The survivors of the Borchgrevink South Polar Expedition, fitted out in 1898 by Sir George Newnes, returned in 1900, having reached the farthest point south on record—78° 50'. They reported having located the magnetic pole. Following is an abstract of the account given to the Royal Geographical Society by M. Louis Bernacchi, a member of the scientific staff: "He said that extensive masses of land did exist within the antarctic circle, but whether they took the form of a vast continent, or of an archipelago smothered under an overload of frozen snow, or of islands whose shores were washed by the ocean, still remained an enigma. It was, he thought, premature to call it the 'Antarctic Continent,' for explorations on the side of America, and even on that of Australia, tended to prove the existence of a broken-up continuation of these two continents, with the most extensive masses of land lying under their respective meridians. Coming to an account of the explorations of the Southern Cross, he said the ship entered the antarctic ice-pack in longitude 158° 53' east on the last day of 1898, and was involved in the pack

fifty days, the longest period that any ship, with the exception of the *Belgica*, had been imprisoned in that pack. At noon on Jan. 12, 1899, a faint gray light sighted on the port bow proved to be land. The captain at first considered it to be some undiscovered island, but when a dull volume of smoke was perceived rising from the east end it was decided to be one of the Balleny Islands, on which Ross mentioned the presence of an active volcano. On Jan. 28 the rugged outline of a mountainous land was made out to the south, and this was with little doubt one of the Russell Islands discovered by Sir James Ross in 1841. These, it had been suggested, were identical with the Balleny Islands, but the two groups were now proved to be quite distinct. On Feb. 17 Cape Adare (latitude $71^{\circ} 18'$ south) was reached. It was of a very dark basaltic appearance, and had scarcely any snow upon it, probably owing to the steepness and smoothness of its sides and its exposure to the northeast winds. The 'Dunraven Rocks' noted by Ross as lying off this cape, over which seas were breaking when he observed them, apparently had no existence. Possibly he mistook a large, rotten, submerged mass of ice for rocks. A party landed on a platform of detritus, 20 feet above water-level and 180 acres in area, formed of boulders, pebbles, and angular masses of *débris* from the mountains. Alternate expansions and contractions, caused by seasonal and rapid daily changes in temperature—which in the middle of winter they had known to alter by 80° F. in a few hours—were the principal cause of the disintegration of the rocks. All over this platform were the bleached remains of thousands of penguins, mostly young birds, that had succumbed to the severity of the climate; thousands of years hence these remains might be available as a proof of what once existed in those regions, now just habitable, then, perhaps, not at all. The statement to the effect that at Cape Adare the intercalation of ice and lava had been observed, and that at one place the lava flow appeared quite fresh, had been widely accepted as authentic, but it was absolutely without foundation, for there was no sign of such intercalation in the old eruptive formation at Cape Adare or anywhere else along the coasts of South Victoria Land, unless it were in the vicinity of Mount Erebus. Next year, on Feb. 2, the ship steamed southward along the coast, and next morning a landing was effected on the western side of Possession Island, about 3 miles in diameter, the largest of a small group. On Feb. 6 Mount Melbourne was sighted to the west-southwest, rising gradually out of the sea to a height of nearly 8,000 feet. All the afternoon they steamed down Wood Bay, which ran much farther inland than indicated in Ross's chart. At the bottom was a long inlet which afforded a capital harbor. A better spot for winter quarters than a pebbly bank there, larger than that at Cape Adare, and occupied by penguins and skuagulls, it would be difficult to find in those latitudes. This part of the coast was actually the closest approach to the south magnetic pole, which lay almost due west of Wood Bay, 200 or 300 miles distant. On Feb. 9 they landed without difficulty on Franklin island, and then steered straight for Mount Terror; Cape Crozier and Cape Bird with the foot of Mounts Erebus and Terror were sighted on the 10th. Mount Terror was very lofty, but scarcely looked the 10,884 feet assigned to it by Ross. Its eastern side was almost free from snow, and at its foot was a rookery occupied by millions of penguins, and far larger than any they had previously seen. The foot of the mountain was low,

and there was a kind of miniature plateau, at which a party could possibly spend a winter. After passing Cape Crozier, Ross's great ice-barrier came into view, stretching away out of sight to the east. Its most surprising characteristics were its unbroken uniformity, vast extent, and the entire absence of visible land from its edge; it was a perpendicular wall of ice 100 feet to 200 feet high, rising suddenly out of an ocean whose depth was measured by hundreds of fathoms. In conclusion, M. Bernacchi dismissed as absurd the theory that this barrier was the front of a huge polar ice-cap, and suggested that it was rather a huge tongue of ice flowing eastward perhaps 500 miles, and possibly not more than 50 miles in width, so that if the party that landed from the Southern Cross on the barrier in latitude $78^{\circ} 34'$ south and longitude $164^{\circ} 32'$ west on Feb. 17, 1900, had continued their journey south, they might have come to an open sea on the other side."

America.—For the purpose of determining the boundaries of the territorial acquisitions of the United States and settling disputed points, so as to bring about uniformity of statement by the departments of the Government in their publications, the director of the census appointed a commission consisting of Walter F. Willcox, chief statistician for methods and results, Census Bureau; Andrew H. Allen, librarian of the State Department; O. H. Tittman, superintendent of the Coast Survey; Henry Gannett, chief geographer of the geological service; and M. T. Lee Phillips, chief of the division of maps and charts of the Library of Congress. Except on one point, they were unanimous in their conclusions. By a majority vote the territory west of the Florida purchase, south of the States of Mississippi and Alabama, and east of the Louisiana purchase was declared to have been in dispute with Spain from 1803 to 1819, in which latter year Florida was bought from Spain. The main conclusions of the commission are summarized as follows:

1. The region between the Mississippi river and Lakes Maurepas and Pontchartrain to the west, and the Perdido river to the east, should not be assigned either to the Louisiana purchase or to the Florida purchase, but marked with a legend indicating that title to it between 1803 and 1819 was in dispute.

2. The line between the Mississippi river and the Lake of the Woods, separating the territory of the United States prior to 1803 from the Louisiana purchase, should be drawn from the most northwestern point of the Lake of the Woods to the nearest point on the Mississippi river, in Lake Bemidji.

3. The western boundary of the Louisiana purchase between 49° and 42° north followed the watershed of the Rocky Mountains; thence it ran east along the parallel of 42° north to a point due north of the source of the Arkansas river, and thence south to that source.

4. The northwestern boundary of Texas as annexed extended up the principal stream of the Rio Grande to its source, and thence due north to the parallel of 42° north.

5. The southern boundary of the Mexican cession of 1848 should be drawn from a point on the Rio Grande 8 miles north of Paso, instead of from one about 30 miles farther north, as is the usual practise, west 3 degrees, and thence north to the first branch of Gila river.

An interesting account is given of the exploration of the Black Cañon of Gunnison river in Colorado. A party consisting of John H. Pelton, J. A. Curtis, M. F. Hovey, W. W. Torrence, and

E. B. Anderson passed through it, climbing over almost vertical walls half a mile in height—a thing never before accomplished so far as is known. From time to time adventurous persons have thought of trying to make the trip from end to end of the gorge in boats, and one attempt of this kind was actually made a few years ago by a surveying party sent out by the Denver and Rio Grande Railway to examine the cañon and determine whether a road could be built through it. On the first day out the boat that carried the expedition was swamped, all the provisions being lost, and the voyagers, fortunate to escape with their lives, abandoned the project.

The object of the recent expedition was to find out if there was not some path by which the waters of Gunnison river could be conducted out of the tunnel and made to irrigate the drought-parched farms of the neighboring region. It was a question whether a "hillside ditch" might not be built in the chasm, so as to bring a portion of the descending stream near the tops of the cliffs, and so tunneling three and a half miles through the mountains—a costly enterprise which the residents of the Uncompahgre valley are determined to undertake if it is proved that there is no other way to get water. The exploration yielded conclusive evidence of the impracticability of the ditch plan. It was found that the walls of the cañon became steeper as its depths were reached. The party was twenty-one days in making a journey of 14 miles from the junction of Cimarron river with the Gunnison, near Cimarron station, and in that distance there were only 5 points at which it would be possible for even the most expert cliff climber to scale the rocky walls and get out of the gorge. The walls, while only 30 feet apart in places, are from 2,100 to 2,600 feet high, and as a rule are nearly perpendicular. In many places there is not so much as a foothold to be had, and were a ditch to be built, the workmen would have to begin at the entrance of the cañon and cut it out of the solid rock all the way.

It was the project of the expedition to follow the current of the stream through the gorge until they should reach Delta station, beyond the farther end. They had two boats provided with extra keels to strengthen the bottoms and enable them to withstand collisions with rocks, while, for an additional precaution, the sides were ribbed with iron rods. At the bow and stern of each boat were iron loops through which a rope could be run for letting the craft down rapids. On the second day the larger boat had been successfully "whipped" through a narrow rapid, when it was hauled up on a bank, and the explorers returned to bring the other one through. They had let it down almost the full length of the cable when suddenly a cross-current caught it, swinging it around in such a manner that it fetched up fore-and-aft upon some boulders between which the current ran. In an instant its sides were crushed and the fragments of the wreck, with half of the provisions and outfit, were carried away. Not the slightest trace of the wreckage or of the lost articles was found during the rest of the voyage.

In several places the river disappears entirely, flowing under huge piles of boulders that have fallen from the cliffs. Tearing beneath the rocks unseen, the water makes a deafening roar, at times so loud that 2 men standing with hands clasped can not make their voices audible to each other. In other parts of the cañon the stream flows on in silence, the rock walls rising so steeply and so far aloft as to exclude the rays of the sun.

At the last the party came to a cataract 60 feet high, between precipitous walls of solid rock of an altitude so tremendous as to exclude the sunlight at noon. On neither side was there a possibility of gaining a footing by which to make the descent. Even if they could manage to lower the boat in safety, they would be unable to follow it.

Nor was there any certainty, if they passed the falls, that they could escape. To return the way they had come was impossible. The boat could not be forced back against the current, and it was out of the question to carry their provisions, even if they had had enough to last them on a return trip. The cañon was only 30 feet wide at the bottom, and above them loomed the nearly vertical walls. To scale one of the walls was their only salvation, and they did it. Everything was left behind. Stripped of all but necessary clothing, they began a climb that lasted from day-break to eleven o'clock at night, at which hour they had made the ascent to an elevation of 2,600 feet on a 600-foot slope. That is to say, they were but 600 feet back from the river and 2,600 feet above it. All these hours they had neither food nor water.

They tried to ascertain if it would not be practicable to approach the falls from the other end of the cañon—i.e., from Delta station. This, they learned, would not be difficult up to a point within one and a half mile of the cataract—the Falls of Sorrow, as the explorers named them—but there again was a stretch that could not be passed.

An expedition to Labrador, composed of men connected with Harvard and Brown Universities, was undertaken for scientific purposes. Some unknown territory was traversed, and two peaks of lofty mountains were named Mount Eliot and Mount Faunce, after the presidents of the universities.

A project that has been discussed for many years has taken form within the past two years, and the Algoma Central Railway, connecting the Great Lakes with Hudson Bay, is now actually under construction, plunging hundreds of miles through an unbroken wilderness, with no cities, towns, or even villages to afford traffic. It had its origin in the necessity for bringing supplies of pulp wood from the far north to the mills at Sault Ste. Marie, where the road begins, but it opens up as well a region that is rich in minerals and timber. For hundreds of miles the railway will run through dense forests of big trees, including birch, maple, hard elm, tamarack, spruce, balsam, poplar, and white pine.

A report of a lecture by Col. G. E. Church on *Some Aspects of South American Geography* gives interesting facts: "The lecturer pointed out that the contrast between the physical features of North and South America was remarkable. In the former Nature seemed to extend a friendly hand to man, while in the latter her outlines were so rugged and her forces so vigorous that he found it no easy task to contend with them. In general, when he attempted to penetrate the country he was met by formidable obstacles. The Andean massif was 500 miles from east to west, and its plateaus were from 12,000 feet to 14,000 feet above sea-level. With its arm it spanned a sixth part of the circumference of the globe, from the Caribbean Sea to Cape Horn, thus bordering the Pacific side of America with a titanic barrier. The height of its passes forbade the country from seeking western trade outlets. Eighty-nine per cent. of the continental drainage found its way to the Atlantic Ocean, 6 to the Pacific, and 5 per cent. was

absorbed by the thirsty inter-Andean section and the western part of the Argentine Republic. On the lofty table-lands barley did not ripen, and above 10,000 feet elevation the bleak valleys and mountain slopes gave no adequate response to the food quest of man, but thirsty Nature prodigally rewarded irrigation on the desert lands of the Pacific slope. A geographical analysis showed that in general man found himself confronted by severe conditions in his struggle with Nature in South America. Thus far, however, his efforts to develop and utilize its vast resources had made its commercial history an epic."

Sir Martin Conway, noted as a mountain climber and explorer, on returning from his third exploring journey in South America, reports that in the heart of the Andes are gold-fields of greater richness than those of the Klondike or the Rand. The eastern slope of these mountains is, he says, a region practically unknown, both as to its botanical and mineral resources; but even aside from its scientific interest, the commercial value of the country demands recognition. Sir Martin says that while he is interested from only the scientific standpoint, he believes the country to be so rich in minerals that American and English capitalists must soon look to that region as the most promising field for investments. In 1898 he visited the Andes region and surveyed the western slope. Returning to Peru last July, he spent several months completing a map of the mountain range. His records for exploration have extended over ten years, while for thirty years he has devoted himself to scientific research.

The pass in northern Patagonia discovered by Padre Menendez called Bariloche, Buriloche, or Vuriloche—connecting southern Chile with the great lake Nahuel Huapi, and thereby with the Atlantic, has heretofore baffled all attempts at rediscovery, although these have been made repeatedly from both sides of the range. Now it appears to have been found again by Capt. Barrios, of a Chilean engineering force. Passing up the Rio Blanco, he reached the famous warm springs of Padre Menendez. Near these the river issues from the great Tronador glacier. Passing eastward by the narrow valley of an affluent of the Blanco, he found that it widened southeast of the glacier to a broad and convenient pass opening into a long and wide valley. Here the Rio de los Nadis (formerly Arroyo Barros Arana) flows to Lake Mascaradi. It is the source of the Rio Manso. From Lake Mascaradi, M. Barrios passed easily along Lake Gutierrez to the Nahuel Huapi. Along the Rio Blanco he found ancient cut stumps, perhaps dating from Padre Menendez, and old traces of a path at Lake Mascaradi.

Prof. W. Sievers gave in Petermann's Mittheilungen a detailed account of the explorations in South America in the nineteenth century, with maps showing the known and unknown territory in each decade. In conclusion he says:

"In looking over the exploring work of the century, it is seen that it was done for the greater part by private enterprise; that not until 1875 did the states take part in the examination of their territory, and even then only the southern, especially Argentina; and that there is great inequality in the degree of knowledge of the various regions. In Argentina a large atlas of the country has been published under Seelstrang's direction since 1882, and there are geological and meteorological stations in that country, with a staff of foreign scholars engaged in scientific research; but the cordillera states, from Bolivia to Venezuela, have scarcely emerged from the stage of the first exploration by foreigners, and are

almost destitute of official surveys. In Brazil the Government as such has heretofore done nothing toward the scientific exploration of its territory, though some of the states, as Minas, São Paulo, and Pará, have taken steps in this direction. The interior is still wholly unknown, with the exception of the river-valleys, and even the northeastern states, from Maranhao to Pernambuco, have scarcely been traversed. Guiana is at the stage of the very beginnings; the great wilds between the affluents of the Amazon, throughout the system of this great stream, are still terra incognita; and other regions, as the territory at the source of the Tapajoz and of the Madre de Dios, as well as the interior of the Chaco Boreal, still await the first exploration, so that there is need there of pioneer activity, as great as in some parts of Africa. But the great obstacle to systematic scientific exploration of South America is the instability and the financial condition of the republican states, and therefore it may be that the recently discovered interior of Africa may become known scientifically sooner than the greater part of South America."

Recent explorations in South America have been made by Dr. Hermann Meyer, J. R. Hatcher, and Dr. H. Steffen, among others; and Dr. C. Sapper has made scientific observations in the Central American states during a residence of almost twelve years.

Europe.—Dr. Hugh Robert Mill, of England, in a recent address, made the first public announcement of a scheme of geographical research on a national scale by private enterprise. Sir John Murray and Mr. Laurence Pullar have decided to complete the survey of all the fresh-water lakes of the British Islands. Sir John Murray, of course, will direct the scientific work, and Mr. Pullar has made over to trustees a sum of money needed to carry out the researches in a thorough and comprehensive manner. All the lakes will be sounded and mapped as a preliminary to complete investigation. Five years, at least, will be required to make these observations and to incorporate them in memoirs, each of which will be a complete natural history of the lakes of one river-basin.

About twenty-five years ago an arm of the Zuider Zee was transformed into fertile soil, and now a step has been taken toward reclaiming a large part of the land submerged by an irruption of the German Ocean in 1282. Texel, Vlieland, Terschelling, Ameland, and Schiermonnikoog islands stretch in a semicircle from the northern extremity of the province of North Holland to the northern tip of the province of Friesland. These are the remnants of a coast line that formerly constituted a breakwater against the North Sea. Towns that had been flourishing centers of trade in the middle ages have remained engulfed since this inundation. A bill for the drainage of sections of the Zuider Zee has been introduced in the States-General, with a memorandum giving all the details of the proposal. It is proposed to enclose the Zuider Zee by a dam extending across its mouth from Wieringen in Holland to Piaam in Friesland, and to create two polders, or areas reclaimed from the sea, by constructing dikes and pumping out the water. The first reclaimed area, comprising nearly 70,000 acres, will be called the Wieringen, or Northwest Polder; the second, which may cover either 78,000 or 116,000 acres, between Hoorn and Marken, will be termed the Southwest, or Hoorn Polder. The remainder of the Zuider Zee will remain for the present, what Flevo used to be more than six hundred years ago, a fresh-water lake. It is computed that the work

will cost nearly \$40,000,000, and will be completed in eighteen years.

The following ship canals have been authorized in Austria by an act that became law June 11, 1901:

1. From the Danube to the Oder.
2. From the Danube to the Moldau at Budweis, connected with canalization of the Moldau from Budweis to Prague.
3. From the Danube-Oder Canal to the upper Elbe at Pardubitz, connected with canalization of the Elbe from Jaromirz, above Pardubitz, to Melnik.
4. A connection of the Danube-Oder Canal with the system of the Vistula and with a navigable section of the Dniester. The preliminary work is to be finished in 1904, and the whole to be done in twenty years, the cost to be borne by the provinces in proportion to the benefit received.

Asia.—The Founder's and Patron's medals for 1900 were awarded by the Royal Geographical Society to Capt. H. H. P. Deasy and James McCarthy—to Capt. Deasy for the exploring and survey work of his two expeditions in central Asia, lasting three years, and to Mr. McCarthy, who is the Government surveyor of Siam, for his explorations in all parts of that kingdom. The other awards were as follow: The Murchison award to M. Henryk Arctowski for the valuable oceanographical and meteorological work which he performed on the Belgian antarctic expedition; the Gill memorial to Mr. Vaughan Cornish for his researches, extending over several years, on seabeaches, sand-dunes, and on wave-forms in water; the Back grant to Mr. Robert Codrington for his journeys in the region between Lakes Nyassa and Tanganyika, during which he removed, in behalf of the society, the section containing the inscription from the tree under which Livingston's heart was buried; and the Cuthbert Peek grant to Mr. T. J. Alldridge for his journeys during the past ten years in the interior of Sierra Leone, during which he has done valuable geographical work.

In 1896 Capt. Deasy explored the border between Chinese East Turkestan and Tibet, from Ladak by way of Polu to Khotan; on his second journey, 1897-'98, the eastern Pamir, especially the upper course of Yarkand river, which he determined, in the face of almost insurmountable obstacles, as far as the point reached by the Russian explorer Grombtschewsky, where the river bears the name Raskamdaya. With the help of a native Indian surveyor, he triangulated the whole territory, making numerous designations of latitude and several of longitude, thus filling a great gap in the map of Asia. He has, in all, surveyed 40,000 square miles of new country. He found that the great peak Muztagh-Ata is the highest point fixed north of the Himalayas.

"The obscurity," says Petermann's *Mittheilungen*, "which reigns over the course of the Yang-tse-Kiang on the unknown stretch between 100° and 102° east longitude, because the swift current and the steep banks prevent the following of the course of the river, is beginning to lighten. Five years ago C. E. Bonin, on the journey from Tali-Fu northward by way of Likiang to Jungning, saw, a little south of that place, at about 28° north latitude, a powerful stream, which he believed must be identical with the Yang-tse-Kiang, which he had crossed at Likiang, at 27° north latitude, while the maps attributed a southeasterly course to the stream from Likiang; Grenard gave it even a wide curve eastward, turning it southward again in the lower course of the Ya-long-Kiang. Bonin's opinion is now confirmed by Edward Amundsen. While Bonin did not actually reach the river at Yungning or Yung-Lin,

Amundsen passed along the northern bank by the abrupt bend, so that doubt of the identity with the Kin-sha-Kiang, as the upper course of the Yang-tse-Kiang is here called, is excluded. But Grenard's supposition is not confirmed, for the Kin-sha-Kiang turns at 101° east longitude in an abrupt bend back to the south until nearly at 28° north latitude, where it again turns eastward."

The latest intelligence at hand from the Swedish traveler Dr. Sven Hedin is a despatch published in October, based upon a letter from him dated July 10. He was then at the foot of the Akka Tagh, in northern Tibet, and intended to proceed in the direction of Ladak in order to survey the region about the source of the Indus. He proposed to return next spring to Osh via Kashgar. Meanwhile a caravan of 15 horses has arrived at Kashgar, bringing the results of two years of the traveler's work in the form of scientific collections, maps, photographs, and diaries. Dr. Sven Hedin speaks in the highest terms of his Cossack escort, provided by the Czar, and extols their courage, endurance, and resource in critical situations. Up to the time of writing he had been in no way molested by the Chinese.

Dr. Hedin reached Kashgar on Sept. 1, 1899, and organized his caravan. He sent the bulk of it by the great north road through Ak-su and Korla to Lob-Nor, while he with a small following made for Lailik, on the Yarkand-daria, which he proposed to follow to Lob-Nor. The journey from Kashgar to Lailik occupied five days. At the latter place he bought one of the ferry-boats for carrying caravans across the Yarkand, and fitted it up for his voyage down the river. He rigged up a tent amidships for his own use, and a dark room in which to develop his photographs. Four ferry-men were engaged to manage the craft, on which Dr. Hedin spent the next three months, floating slowly down from Lailik to Yangi-kul. Only once, in the neighborhood of Maral-bashi, where the irrigation canals had drained the water from the river, was it found necessary to enlist the services of 100 natives, to drag the ferry-boat over the shallows. Dr. Hedin describes the journey along the Yarkand-daria and Yarik rivers as a delightful experience. The river wound in all directions, and in places the scenery was extremely picturesque. Dr. Hedin mapped the whole course of the river between Lailik and Yangi-kul on 60 large sheets, with great minuteness. He took 60 measurements of the volume of water, and several times every day calculated the distances by means of a special instrument, which gave the rapidity of the stream. On reaching Yangi-kul, where the caravan sent round by the road had arrived, Dr. Hedin established a winter camp. He himself, with 4 men and 7 camels, after ten days at Yangi-kul, set out across the desert to Cherchen. The journey lasted twenty days, across interminable wastes of sand, but only one camel was lost. From Cherchen Dr. Hedin made an excursion to Andere, to the west-southwest. He reached camp on Feb. 24 of last year, after an absence of sixty-six days, during which he had traversed and mapped a very large area of new country.

Setting out on March 5, he followed the southern slopes of the Kuruk-taj range and the dried-up bed of the Kum-daria, or "river of the desert," until he came upon an ancient lake bed with extensive salt deposits and dead trees and sedge. On the shores of this ancient lake bed were the ruins of a town with artistic wooden sculptures and an old road. The discovery confirms the theory put forward in his book *Through Asia* as

the existence of an ancient Lob-Nor lake not identical with the Lob-Nor of the present day. South of this old lake bed, and one day's march north of Kara-Koshun, he discovered a large new lake formed by a hitherto unknown arm of the Tarim flowing eastward through the old bed of the Shirga. The return journey was made by a new and very interesting road to Yangi-kul, which was reached early in May. He sent the bulk of his caravan to Abdal, near the entrance of the Tarim river into the Kara-Koshun, which he identifies with Prjevalsky's Lob-Nor, and himself traveled down the river to Abdal in his ferry-boat. *En route* he explored the lakes to the west fed by Tarim river. After some weeks at Abdal he followed the main part of his caravan to the Chunin-Tag, and fixed his permanent camp a little to the south of Lake Gas, in a splendid mountain region called Mandarlik. With a small caravan he left the camp on July 20, to make a round journey through northern Tibet. Oct. 20 he again reached his main camp, having traversed 965 miles along a new route, although at various points he crossed the routes followed by Carey, Rockhill, Wellby, and Bonvalot. One of his men, an Afghan hunter, died on the journey, and many of the animals perished. The farthest point reached to the southeast was near the upper Yang-tse, and for eighty-four days the caravan did not meet a human being. Intense cold was experienced, on one occasion the thermometer falling to 4° F., while storms from the west, always accompanied by snow and hail, caused extreme suffering. The heights of several mountain peaks were obtained, and an immense number of photographs and sketches were taken. Geological and botanical collections were made, and notes taken of the wild animals—antelopes, bears, wild sheep, and goats being most numerous—which were encountered. The map work of this journey alone fills 194 large sheets.

From a paper by Sir Thomas Holdich on *The Geography of the Northwest Frontier of India* is taken the following extract on the physical features of the region:

"The great level range of Sufed Koh, the dominating feature both of the Kabul and the Kuram valleys, for all its giant independence, had a distinct geographical connection with the Hindu-Kush. The Kabul basin was embraced by a long, sinuous arm of the Hindu-Kush, and the Kabul river formed no exception to the almost universal frontier rule, that the rivers of the plateau should pass through a gate of the hills hewn right across the axis of them ere reaching the Indus flats. The Kuram valley and the Tochi, too, were tied in at their exit to the plains, and their drainage passed out through mountain gates, which so restricted the outflow that past centuries of detritus had accumulated behind them; the grade of the stream had shaped itself to meet the alluvial formation, and we thus got wide spaces of cultivable land, terraced and reveted into level fields, and forming landscapes of fertile beauty with scattered orchards and half-concealed villages. But the lateral feeders of the main streams afforded quite a different class of scenery, the rough-hewn edges of the broken strata formed cliffs which looked straight into narrow, confined troughs at their feet, with the course of the mountain stream (when there was any stream at all) broken by boulders and waterfalls, amid a space so narrow that it was frequently impossible to find passable footway. The point to be noted about all this Pathan borderland, which was the country that mainly constituted the new-formed province or agency, was that it belonged to a northern moun-

tain area in its chief physical aspects. South of the Gomul river began a new mountain system, which, while it exhibited many of the essential features of the northern orography, claimed a distinct constructive anatomy of its own. Line upon line of ridge and furrow, long dominant sharp-backed ridges with jagged saw-like outlines; short, thin ridges packed in between as tightly as they can fit; here and there a huge mass of limestone upheaved in grand outlines, upsetting the regularity of minor construction—all running with a parallel trend from north to south facing India—presented about as formidable a barrier to farther advance as might well be conceived."

Explorations have also been made in Asia by Lieut. Kozloff, Dr. Richard Leonhard, Dr. Karl Lehmann, Lieut. Olufsen, Count de Barthélemy, M. G. Saint Yves, Messrs. Harrison and Whitehouse, Douglas Freshfield, M. Bogdanovich, W. W. Skeat, J. P. Needham, and Rev. Putnam Cady.

Africa.—The Royal Society this year awarded one of its medals to Dr. A. Donaldson Smith, on account of his journeys in Africa. On the first he traveled to the northern side of Lake Rudolf, and explored the lower course of the Omo, then returned over a previously unknown route by the eastern side of the lake. The second journey was from the Somali coast to the upper Nile through an unknown country. Following is an abstract of the account of this journey given to the society by Dr. Smith:

"He set out from Berbera on Aug. 1, 1899. Owing to the desertion of some of his Sikh followers, he began to cross the Haud with only 17 Somalis and as many Gorkhas and Sikhs, besides his assistant, Mr. Frazer, and a Goanese cook. The expedition marched by way of Milmil, Sesabane, and Sheneli to Shebéli river, the followers being increased to 48 on the way. The Shebéli was reached on Sept. 8 at a spot called Godi, over 400 miles from Berbera by road; and on Sept. 11 the expedition went west again, and between Gohulle and El Dere followed the line of march traversed by Dr. Smith in 1895. In the first journey he saw the worst side of the Abyssinian method of annexation, but his more recent observations showed him that the Abyssinians' treatment of tribes once brought thoroughly to submission was commendable. In the first attacks the Abyssinians were certainly very cruel, but later they restored to the natives a large proportion of their belongings and very nearly their original self-government, only a moderate tax being imposed. From the Somalis to the Boran he was surprised to find the natives quite as rich, apparently, as they were before they came under Abyssinian rule. Leaving El Dere, which is about equidistant (750 miles) from Berbera and the Nile, the expedition marched through broken and very wooded country, abounding in elephants, and here the Somali followers gave much trouble. They were never satisfied unless they had over ten pounds of camel meat or mutton a day each, and when food was scarce Dr. Smith had to be on the alert constantly to prevent them from poisoning transport animals or stealing sheep. But the Somalis were not such miserable thieves as most of the Indians; and their superb physical condition, swift-footedness, endurance, and intelligence were remarkable. After leaving Goff the expedition reached an altitude of over 5,000 feet, in the Boran highlands, when suddenly the caravan was brought to an abrupt halt by a precipice that sheered off almost perpendicularly to a broad plain 1,700 feet below. Five marches were occupied in crossing this plain, where Dr. Smith obtained a specimen of a tiny gazelle new to sci-

ence. On Nov. 26 the valley of Lake Stefanie was entered, and here the expedition endured much hardship by the burning of the camp and the shortness of water, for the water of the lake was found to be undrinkable. Lake Rudolf was reached on Dec. 10. The formerly rich tribe of Rusia was found no longer to exist, and no human beings were seen until the river Nianam was reached. Between the Nianam and the Nile there was not only a completely different set of birds, but scarcely any of the mammalia were the same that had been found in the eastern section of the journey. On Jan. 3 the Omo river was left behind. After leaving the highlands and crossing at right angles the line of march of the late Capt. Wellby, the Magois were encountered. These were quite different in appearance and customs from any tribe previously met with. They had the heavy build and large features of the Sudanese, and the lines of raised tattooing which are so characteristic of the people about the Nile. They seemed to care principally for small red beads, which they wore worked in gorgeous patterns. They were the only people, too, whom Dr. Smith had seen wearing a zebra's tail suspended from the elbow. Contrary to the advice of these natives the expedition set out into the plain westward, and here they suffered considerably from the difficult ground and the scarcity of water, and many transport animals and much valuable baggage were lost. After searching for a better route for many days, a branch of the Magois calling themselves Katua were encountered, and Dr. Smith was surprised to find them cow-worshippers. On reaching the most northern extension of the Uganda highlands on Feb. 15 the Akara were met with. Many of these natives were agriculturists as well as stock-raisers, and had substantial wooden dwellings. Villages were passed which might easily have contained 1,500 inhabitants. Dr. Smith secured at this stage of the journey the only specimens ever obtained of the spotted bush-buck. Fort Berkeley was reached on March 14. On May 5 a gunboat arrived, and Dr. Smith and his collections were carried down to Cairo.

Other travelers in this region whose explorations promise to supplement the work of Dr. Smith and the Italian explorers are the Baron v. Erlanger and Oscar Neumann, who have visited some unknown territory near the watershed between Juba and Sidama, and Hugues Le Roux, who has traced a part of the unexplored course of the Blue Nile, from the point where it leaves the province of Godjam to the mouth of the Didesa.

A little steamer, the *Scotia*, has been placed upon Lake Mweru, and the outlines of the lake can now be determined, although the swampy shores, especially those in the southwest, will offer some difficulty. Navigation for any great distance on the rivers is prevented by falls above and below the lake.

The upper Nile has been opened by the cutting away of the barriers of *sudd* by a force under Major Peake. This route when opened will save months in the time of transporting supplies to northern Uganda. The *sudd* consists of thick masses of weeds packed and matted together.

In May, 1900, came the report that Mr. J. E. S. Moore had arrived at Mombasa with the Tanganyika expedition, which had carried out the scientific investigations with which it was entrusted throughout the entire length of the great Rift valley, from the south of Lake Nyassa to the Albert Nyanza. It was found that the old marine fauna of Tanganyika did not extend to any of the

lakes northward, though there was geological evidence pointing to some former extension of Lake Tanganyika westward along the Congo valley. The same evidence confirms the view that the lake once covered a much larger area, since its peculiar fauna were found at considerable heights north and south of it. Among other pieces of geographical exploration accomplished was the successful ascent of one of the highest snow peaks of Ruwenzori, where observations and photographs were obtained.

The upper Zambesi, with its eastern and western tributaries and the lands lying between, has been minutely explored by Major A. St. Hill Gibbons and his companions, Capt. F. C. Quiche, Capt. Stevenson-Hamilton, and Mr. Weller. The regions west of the upper Zambesi as far as Cécito and Okavango are now described for the first time.

The French explorers MM. Huot and Bernard undertook a journey in October, 1900, of which the results have not apparently been yet published, to determine the watershed between the Congo and the Shari.

M. Foureau returned to France in September, 1900, having traversed Africa with his expedition from Algiers across the Sahara and Sudan to the Chad and the Shari, and by way of the Ubangi and the Congo to the Atlantic. The parts of the journey new for geography were those through the Hagar mountains from Ain-el-Hadjadj to the oasis of Air, where Barth's route was reached, and the course around the northeastern shore of Lake Chad to the Shari delta at Gulfei. His companion, Major Lamy, fell in a conflict on the Shari against Rabeh, the usurper of Bornu. Of the 314 men in the expedition, 32 fell in battle and 20 died of disease in the two years.

Other travelers who have been exploring recently in Africa are Dr. Kandt, M. Pierre Prins, MM. Hostains and D'Olloné, M. Dèce, Major Colin Harding, A. H. Sharp and E. S. Grogan, Mr. Poulett Weatherly, M. Rue, Lieut. Lencaire, Count Leontieff, M. Flamand, M. Bailland, Mr. Silva White, Mr. Percy Reid, Baron Grünan, Capt. Ashburnham, Capt. Jobit, M. Blanchet.

Oceanica.—In a lecture on British New Guinea, Prof. A. C. Haddon described the structure of that island and the geographical distribution of the population, who belong to the Melanesian or dark-skinned, black, frizzly-haired people of the western Pacific. There was no trace whatever of Malay physical character, culture, or language in the island, and he did not seek outside of New Guinea for the ancestral stock of its Papuan inhabitants. Dr. Meyer, in his great monograph on the Negritos of the Philippine Islands, had expressed the opinion that the question whether the Papuans were a mixed race was not yet ripe for decision. The lecturer expressed the opinion that there was a truly indigenous race who were the real Papuans, and that there had been several distinct waves of immigrants from the Melanesian archipelago who had saddled themselves on the preexisting population.

The Ocean.—The exploration of the sea is a work in which geographers are taking great interest. A second international conference took place at Christiania in May, 1901, and the plan drafted in Stockholm in 1899 was completed. The original program has been revised to meet the wishes of the participating governments. The governments of all the countries bordering on the North Sea and the Baltic were represented at the conference, except France, whose geographical position gives her less practical interest in the area of research—namely, the North Atlantic, the

the North Sea. The Norwegians and Danes have already provided themselves with special steamers adapted to the proposed investigations, and a German steamer is building. The arrangements of most of the smaller states are well advanced. An international laboratory for scientific ocean research is established at Christiania.

GERMANY, an empire in central Europe, composed of the federated German states. The King of Prussia is German Emperor, having supreme command of the German army, with power to make war, with the consent of the federated states and princes for an offensive war, and the right to make peace. There are two legislative bodies with concurrent powers—the Bundesrath, composed of representatives of the federated states, and the Reichstag, representing the German people. Acts on which they agree become law on receiving the assent of the Emperor countersigned by the Chancellor of the Empire. The Bundesrath has 58 members, appointed by the governments of the federated states. The Reichstag has 397 members, 1 to 124,500 of population, elected by universal manhood suffrage and by secret ballot for the term of five years. Alsace-Lorraine, the imperial province, is represented by 4 commissioners, who sit in the Reichstag without having votes. The imperial ministers act independently of each other under the supervision and control of the Chancellor. The reigning Emperor is Wilhelm II, born Jan. 27, 1859, successor to his father, Friedrich III of Prussia, who died June 15, 1888. The heir apparent is Prince Friedrich Wilhelm, born May 6, 1882. The Chancellor of the empire at the beginning of 1901 was Count von Bülow, who succeeded Prinz Hohenlohe-Schillingfürst in that office and as President of the Council of Ministers in the Prussian Government. The Secretary of State for Foreign Affairs was Baron von Richthofen; Secretary of State for the Interior, Count Posadowsky-Wehner; Secretary of State for the Imperial Marine, Herr von Tirpitz; Secretary of State for Justice, Dr. A. Nieberding; Secretary of State in charge of the Treasury, Baron von Thielmann; Secretary of State in charge of the Post-Office, Gen. von Podbielski; Director of the Imperial Railroads, Dr. Schulz; President of the Board of Accounts, Herr Magdeburg; Chief of the Administration of the Invalid Fund, Dr. Rösing; President of the Imperial Bank, Dr. Koch. The Vice-President of the Prussian Ministry of State and Prussian Minister of Finance was Dr. Johannes von Miquel; Minister of Public Works, Herr von Thielen; Minister of Agriculture, Domains, and Forests, Baron von Hammerstein-Loxten; Minister of Justice, Dr. Schönstedt; Minister and Secretary of State for the Interior, Baron von Rheinbaben; Minister and Secretary of State for Foreign Affairs, Count von Bülow; Minister of Commerce and Industry, Herr Brefeld; Minister of War, Major-Gen. von Gossler; Minister and Secretary of State for the Navy, Herr von Tirpitz; Minister of Ecclesiastical Affairs, Public Instruction, and Medical Affairs, Dr. Studt. The Emperor is King Wilhelm II of Prussia. The King has supreme executive authority, and shares the legislative authority with the Landtag, consisting of the Herrenhaus and the Chamber of Deputies. The Herrenhaus, or House of Lords, is composed of princes of the Hohenzollern family, heads of mediatized sovereign houses, 16 in number, 82 hereditary peers of the territorial nobility, 8 noblemen elected by the landowners of provinces, and 207 public functionaries, representatives of universities, burgo-masters of towns, and life members nominated

from among landowners, manufacturers, and national celebrities. The Chamber of Deputies has 433 members, elected indirectly for five years by all male Prussians twenty-four years of age, one-third by the highest taxpayers who pay a third of the taxes, one-third by the next highest who pay a third, and one-third by the lowest taxpayers paying the remaining third.

Area and Population.—The area of the German Empire is 208,830 square miles. The population at the census of June 14, 1895, was 51,770,284, divided into 22,913,691 males and 28,856,593 females. The census of Dec. 1, 1900, gave 27,731,067 males and 28,613,247 females; total, 56,345,014. The area in square miles of the different states and their population in 1900 are stated in the following table:

STATES.	Area.	Population.
Prussia.....	134,603	34,463,377
Bavaria.....	29,282	6,175,153
Württemberg.....	7,528	2,165,765
Baden.....	5,821	1,866,584
Saxony.....	5,787	4,199,758
Mecklenburg-Schwerin.....	5,135	607,835
Hesse.....	2,965	1,120,428
Oldenburg.....	2,479	398,499
Brunswick.....	1,424	464,251
Saxe-Weimar.....	1,388	362,018
Mecklenburg-Strelitz.....	1,131	102,628
Saxe-Meiningen.....	953	250,683
Anhalt.....	906	316,027
Saxe-Coburg-Gotha.....	755	229,567
Saxe-Altenburg.....	511	194,273
Lippe.....	469	139,298
Waldeck.....	433	57,913
Schwarzburg-Rudolstadt.....	363	92,657
Schwarzburg-Sondershausen.....	333	80,678
Reuss-Schleiz.....	319	138,993
Schaumburg-Lippe.....	131	43,132
Reuss-Greiz.....	122	68,287
Hamburg.....	158	768,349
Lübeck.....	115	96,775
Bremen.....	99	224,697
Alsace-Lorraine.....	5,600	1,717,451
Total.....	208,830	56,345,014

The cities and manufacturing districts have increased rapidly in population with the growth of industry, the largest gain being shown in Lübeck, Bremen, and Hamburg, due to the expansion of foreign commerce, and in Saxony, Prussia, and Baden, where manufactures have most increased.

The number of marriages in 1898 was 458,877; of births, 2,029,891; of deaths, 1,183,020; excess of births, 846,871. The number of German emigrants in 1899 was 23,740, of whom 19,271 went to the United States, 877 to Brazil, 1,099 to other American countries, 548 to Africa, 178 to Asia, and 141 to Australia and New Zealand. The total includes 1,626 emigrants to other countries in Europe, but not 1,384 German emigrants from French ports whose destination was not reported. The emigrants over sea included 12,899 males and 10,215 females. There were 2,652 families, comprising 8,564 persons. Of the total number of emigrants 13,747 came from Prussia, 2,140 from Bavaria, 1,250 from Württemberg, 1,747 from Hamburg, 1,057 from Saxony, 753 from Baden, 441 from Bremen, 361 from Alsace-Lorraine, 333 from Hesse, 269 from Oldenburg, and 231 from Mecklenburg-Strelitz. The number of non-German emigrants who sailed from German ports was 130,646. The total number of emigrants from German ports, including foreigners, from 1871 to 1899 inclusive was 4,210,742; from 1832 to 1870 the number was 1,788,380. Since 1871 Bremen has been the port of emigration for 1,178,708 Germans and 1,060,214 foreigners; Hamburg for 849,052 Germans and 1,088,062 foreigners, and 23,740 Ger-

mans and 10,966 foreigners have gone from other German ports. About 6,000,000 Germans have emigrated since 1820, two-thirds of them to the United States. Berlin increased in population from 1,677,304 in 1895 to 1,884,151 in 1900; Hamburg from 625,552 to 705,738; Munich from 411,001 to 499,959; Leipsic from 399,963 to 455,089; Breslau from 378,250 to 422,738; Dresden from 336,440 to 395,349; Cologne from 321,564 to 372,229; Frankfurt from 229,279 to 288,489; Magdeburg from 214,424 to 229,663; Hanover from 209,535 to 235,666; Nuremberg from 195,783 to 261,022; Düsseldorf from 175,985 to 213,767; Königsberg from 172,796 to 187,897; Chemnitz from 161,017 to 206,584; Stuttgart from 158,321 to 176,318; Stettin from 140,724 to 210,680; Charlottenburg from 132,377 to 189,290; Bremen from 141,894 to 176,318; Altona from 148,944 to 161,507; Elberfeld from 139,337 to 156,937; Halle from 116,304 to 156,611.

Finances.—The expenditure of the Imperial Government for 1902 is estimated at 1,912,610 marks for ordinary and 328,334 marks for extraordinary purposes; total, 2,240,944 marks. The total estimated revenue is 2,137,193 marks. The revenue from customs and excise duties in 1901 was estimated in the budget at 789,725,000 marks, of which 473,220,000 marks were from customs, 12,143,000 marks from tobacco, 102,009,000 marks from sugar, 47,810,000 marks from salt, 124,301,000 marks from spirits, 30,165,000 marks from beer, and 77,000 marks from imposts in territories outside of the customs union; from stamps, 66,483,000 marks, of which playing-cards produced 1,471,000 marks, bills of exchange 10,367,000 marks, securities, accounts, lottery tickets, and brokers' receipts 53,708,000 marks, and statistical fees 937,000 marks; for posts and telegraphs, 393,209,930 marks; interest on the invalid fund, 30,076,276 marks; revenue from railroads, 86,175,000 marks; from the imperial bank, 14,854,500 marks; from the printing-office, 7,516,000 marks; various receipts, 18,554,063 marks; federal contributions, 527,662,374 marks; sales of land and fortifications, 206,655 marks; from loans, 89,476,773 marks; other extraordinary receipts, 5,391,638 marks; balance from preceding years, 30,726,934 marks; supplementary extraordinary budget, 15,585,869 marks; total, 2,066,644,012 marks. The estimated expenditures for 1901, including supplementary estimates, amounted also to 2,066,644,012 marks, of which 1,783,753,067 marks were ordinary recurring expenditures, and 282,890,945 marks were non-recurring and extraordinary expenditures. Of the recurring expenditures 541,521,093 marks were for the army, 520,294,715 marks for the imperial treasury, 77,700,500 marks for the debt of the empire, 73,862,860 marks for the navy, 68,164,130 marks for pensions, 342,495,126 marks for posts and telegraphs, 5,304,951 marks for the imperial printing establishment, 391,910 marks for the railroad office, 38,782 marks for Kiauchau, 262,069 marks for military justice, 148,788,675 marks for the Ministry of the Interior, 30,076,274 marks for the invalid fund, 12,508,658 marks for the Ministry of Foreign Affairs, 2,119,362 marks for the Ministry of Justice, 699,250 marks for the Reichstag, 856,410 marks for the Audit Bureau, 58,435,300 marks for railroads, and 233,000 marks for the Imperial Chancellery. Of the federal contributions in 1901 Prussia paid 320,855,469 marks; Bavaria, 59,193,009 marks; Saxony, 38,144,485 marks; Würtemberg, 21,304,345 marks; Baden, 17,458,589 marks; Alsace-Lorraine, 16,608,500 marks; Hesse, 10,465,376 marks; Hamburg, 6,865,625 marks; Mecklenburg-Schwerin, 6,017,576 marks; Bruns-

wick, 4,373,539 marks; Oldenburg, 3,764,425 marks; Saxe-Weimar, 3,416,707 marks; Anhalt, 2,954,196 marks; Saxe-Meiningen, 2,356,978 marks; Saxe-Coburg-Gotha, 2,182,277 marks; Bremen, 1,978,248 marks; Lippe, 1,339,277 marks; Reuss-Greiz, 679,560 marks; Waldeck, 581,537 marks; Strelitz, 1,022,745 marks; Schwarzburg-Rudolstadt, 893,264 marks; Lübeck, 839,265 marks; Schwarzburg-Sondershausen, 786,388 marks; Reuss-Greiz, 679,560 marks; Waldeck, 581,537 marks; and Schaumburg-Lippe, 415,223 marks. The pensions of soldiers who fought in the campaigns of 1866 and 1870-71 were doubled by a measure voted by the Reichstag in 1901, which gives to veterans who are totally incapacitated for work the same pay that they received in the army, ranging for privates and non-commissioned officers from 720 to 1,044 marks a year, with an additional 324 marks for every crippled limb, and from 180 to 475 marks for care and nursing when needed. Officers receive increases in their pensions not so great in proportion, 450 marks increase for lieutenants and 600 marks for captains. The expenses of the Government have so increased that fresh sources of revenue will have to be found. The states of central and south Germany object to paying larger matricular contributions because their taxation was higher per capita than that of Prussia, being 10.98 marks in Baden, 10.80 marks in Würtemberg, 10.73 marks in Bavaria, and 9.78 marks in Saxony, compared with 8.36 marks in Prussia, which derives a large revenue from the state railroads. The special excise duties on malt, beer, wine, and meat bring the amount of taxation up to 17.64 marks in Baden, 16.51 marks in Bavaria, 16.16 marks in Würtemberg, and 11.17 marks in Saxony. The average taxation in Germany is only two-fifths what it is in France, and little over half the average rate in Great Britain, being 15.28 marks in indirect taxes and about 6 marks in direct taxes, but the incidence is greater on the poorer classes, who have to pay an income tax when they have any incomes, and to bear the heavy duties on grain, sugar, etc. The Minister of Finance in May announced a prospective deficit of 70,000,000 marks or more, the increased stamp-duties not giving the expected yield, and the lowering of postal and telegraph rates having entailed a considerable loss of revenue.

The funded debt of the empire on March 31, 1899, consisted of 1,240,000,000 marks of 3½-per-cent. and 1,057,950,700 marks of 3-per-cent. loans; total, 2,297,950,700 marks. Of the old debt of the North German Confederation 17,700 marks remained unpaid, and the unfunded debts were 50,000,000 marks of treasury bonds and 120,000,000 marks of paper money, making the total indebtedness 2,467,968,400 marks, the 3-per-cent. loans having been increased by 115,703,900 marks during the year, and the treasury bonds decreased by 20,000,000 marks. The amount of the invalid fund was 390,967,654 marks. The war fund preserved in gold is 120,000,000 marks. A loan of 300,000,000 marks at 3-per-cent. was issued in the beginning of April, 1901, at 87½ per cent., whereas the price of the 3-per-cents. issued in 1899 was 92. The new loan was required to cover the cost of the Chinese expedition. The supplementary estimates for 1901 necessitated by the expedition amounted to 123,322,000 marks, compared with 152,770,000 marks for 1900.

The budgets and debts of the individual states, in most cases for 1901, in others for 1900, are given in marks in the table on the next page.

The extraordinary revenue of Alsace-Lorraine was 3,997,754 marks and the extraordinary ex-

GERMANY.

STATES.	Revenue.	Expenditure.	Debt.
Saaxe Lorraine.....	60,404,856	60,054,660	23,842,800
Anhalt.....	27,696,450	27,696,450	187,500
Baden.....	89,321,385	99,031,828	333,367,804
Bavaria.....	432,919,989	432,919,989	1,460,173,215
Bremen.....	25,321,442	31,907,989	180,875,400
Brunswick.....	15,750,000	16,163,050	27,688,012
Hamburg.....	89,265,533	89,331,941	375,526,581
Hesse.....	37,438,279	37,371,625	267,463,687
Lippe.....	1,395,185	1,407,841	1,167,998
Lübeck.....	6,216,432	6,216,432	18,871,021
Mecklenburg-Schwerin.....	3,974,000	3,974,000	113,714,000
Mecklenburg-Strelitz.....	.....	.....	6,000,000
Oldenburg.....	9,832,077	9,218,953	56,090,330
Prussia.....	2,472,266,033	2,472,266,033	6,591,683,604
Reuss-Greiz.....	1,540,883	1,540,883	.....
Reuss-Schleiz.....	2,731,403	2,731,403	1,040,550
Saxe-Altenburg.....	4,571,834	4,571,834	887,450
Saxe-Coburg-Gotha.....	8,131,119	8,134,404	4,787,758
Saxe-Meiningen.....	8,744,478	7,888,598	8,303,512
Saxe-Weimar.....	10,461,076	10,461,076	1,940,354
Saxony.....	92,181,039	92,181,039	829,822,450
Schaumburg-Lippe.....	1,070,612	1,070,612	481,500
Schwarzburg-Rudolstadt.....	2,778,050	2,778,050	3,884,000
Schwarzburg-Sondershausen.....	3,340,183	3,340,183	2,229,686
Waldeck.....	1,546,783	1,546,783	1,937,100
Württemberg.....	82,232,006	81,364,737	483,723,700

penditure 4,347,250 marks. Anhalt has 7,703,387 marks of invested funds. Baden's debt was incurred for railroads exclusively. Of the debt of Bavaria 1,115,394,800 marks were raised to build railroads, the profits from which are more than the cost of the whole debt, and with those from posts, telegraphs, and mines make very near half of the gross revenue. In Bremen the debt charge is the chief item of expenditure, and more than one-third of the revenue is obtained from income tax and other direct taxes. In Brunswick there is an endowment fund yielding 2,702,050 marks not included in the budget, and the ducal civil list of 1,125,000 marks is also separately provided, while the state has besides domains and forests an invested fund of 40,600,000 marks, and receives till 1932 an annuity of 2,625,000 marks for the railroads; but, on the other hand, an annuity of 1,219,740 marks must be paid till 1924 in addition to the charges of the funded debt, 80 per cent. of which was incurred for the construction of railroads now transferred to the empire. Hamburg receives considerable revenue from docks and railroads, but a third of the total comes from direct taxation, the cost of the debt, which was raised for public improvements, being heavy, and expenditure on education liberal. Hesse raises nearly a third of the revenue by taxes on land, rents, incomes, inheritances, and business, and two-thirds from domains, forests, and the imperial customs, the last balancing the contribution to the expenses of the Imperial Government, while the revenue from railroads is sufficient to pay the charges of the debt, chiefly incurred for their construction. Nearly half of the revenue of Lübeck comes from forests and invested funds, and the remainder is raised by direct taxation. In Mecklenburg-Schwerin the Grand Duke has a separate income of about 22,640,000 marks, and the railroads and public funds provide for the service of the debt. In Mecklenburg-Strelitz no public financial statement is ever made, because there is no state revenue apart from the income of the Grand Duke. In Oldenburg triennial budgets are made out separately for the grand duchy and for the principalities of Birkenfeld and Lübeck. Of the total revenue of Prussia 95,676,404 marks come from domains and forests, 198,354,600 marks from direct taxes, 83,307,000 marks from indirect taxes, 82,487,500 marks from the lottery, 2,069,300 marks from the marine bank, 368,110 marks from the mint, 167,061,876 marks from furnaces

and salt-works, 1,363,967,333 marks from railroads, 248,286 marks from donations, 354,943,862 marks from the general finance administration, 6,386,845 marks from the Ministry of State, 4,600 marks from the Foreign Office, 2,063,002 marks from the Ministry of Finance, 8,120,000 marks from the Ministry of Public Works, 5,439,914 marks from the Ministry of Commerce and Industry, 73,800,700 marks from the Ministry of Justice, 18,188,994 marks from the Ministry of the Interior, 4,662,352 marks from the Ministry of Agriculture, 5,115,055 marks from the Ministry of Worship and Instruction, and 300 marks from the Ministry of War. Of the expenditure for 1901 working expenditure amounts to 1,140,714,622 marks, of which 46,325,700 marks are for domains and forests, 124,379,190 marks for financial administration, 141,813,878 marks for mines, etc., and 828,195,854 marks for railroads; charges on the consolidated fund amount to 671,838,567 marks, of which 8,000,000 marks are additional crown donation to the King, 230,747,422 marks interest on the public debt, including railroad debt, 39,550,101 marks sinking-fund of the debt, 2,453,982 marks annuities and expenses of management, 212,315 marks expenses of the Herrenhaus, 1,672,615 marks expenses of the Chamber of Deputies, 320,314,597 the matricular contribution to the empire, and 68,887,534 marks appanages, annuities, indemnities, etc.; the expenditures of the state administration was 493,303,562 marks, of which 9,275,476 marks were for the Ministry of State, 552,500 marks for the Ministry of Foreign Affairs, 99,684,026 marks for the Ministry of Finance, 30,678,485 marks for the Ministry of Public Works, 11,987,534 marks for the Ministry of Commerce and Industry, 109,389,300 marks for the Ministry of Justice, 69,137,188 marks for the Ministry of the Interior, 22,864,482 marks for the Ministry of Agriculture, Domains, and Forests, 139,595,854 marks for the Ministry of Public Instruction and Worship, and 138,717 marks for the Ministry of War; and extraordinary expenditure amounted to 166,409,282 marks. The interest-bearing debt of Prussia consists of 3,587,090,550 marks of 3½-per-cent. consols, 1,914,100,650 marks paying also 3½ per cent., 962,397,400 marks borrowed at 3 per cent., 122,919,559 marks of railroad debt, and 5,175,444 marks taken over from the provinces annexed in 1866. In both principalities of Reuss the reigning family owns most of the land. In Saxe-Altenburg two-thirds of the public revenue is derived from domains and the reserve fund of 5,070,692 marks and one-third from direct taxes. The revenues of Coburg and Gotha are administered separately; they have domain revenues, amounting to 439,600 marks for Coburg and 1,930,028 marks for Gotha; state revenues, amounting to 1,019,120 marks for Coburg and 2,329,980 marks for Gotha, and a common budget amounting to 2,712,391 marks of revenue and 3,315,552 marks of expenditure. Saxe-Meiningen has state domains yielding 2,852,860 marks of revenue, and most of the debt is offset by productive public works. In Saxe-Weimar the forests yield a large income, and the debt is more than covered by domains and funds. Only the ordinary budget of the Kingdom of Saxony is given in the foregoing table, besides which there is an extraordinary budget of 112,783,186 marks; domains, forests, and railroads produce more than half of the revenue, the debt having been incurred chiefly for the construction of railroads, telegraphs, and other public works. The debt of Württemberg was made almost entirely for railroad construction, and the profits from the railroads considerably exceed the inter-

est on their cost, while forests, domains, mines, and metal and salt works yield nearly 12 per cent. of the total revenue.

The Army.—The whole of the land forces of the empire form a united army under the supreme command of the Kaiser. Bavaria, Saxony, and Württemberg have separate military administrations, but the Bavarian military budget must bear a fixed proportion to the expenditures of other departments and the budgets of the other two kingdoms are prepared by the Prussian Ministry of War, which directs the administration of the entire army. All German troops are bound by the Constitution to obey unconditionally all orders of the Kaiser, but in time of peace the oath of fidelity is not required from Bavarian soldiers. The strength of the imperial army on the peace footing in 1900 was 23,850 officers and 576,666 men, with 102,929 horses. The one-year volunteers, who serve at their own expense and number about 8,000 each year, are not included in the legal peace strength. There were 216 infantry regiments, containing 12,056 officers and 267,274 men; 18 battalions of rifles, 388 officers and 11,274 men; 293 district commands, 870 officers and 5,757 men; and 2,560 infantry paymasters, surgeons, etc., making the total infantry 13,314 officers and 386,865 men. The cavalry comprised 2,406 officers and 66,229 men, with 65,135 horses, the number of regiments being 93, outside of which 817 cavalry officers and men were employed in special services. The field-artillery, organized in 88 regiments, contained 2,406 officers and 66,229 men, with 32,879 horses, and there were 962 officers and men in special services. The foot-artillery consisted of 17 regiments and 1 battalion, containing 872 officers and 23,207 men, not counting 134 in special services. Of pioneers there were 25 battalions, comprising 571 officers and 14,814 men, excluding 99 in special services. There were 3 railroad regiments, 2 balloon detachments, 1 battalion of railroad troops, and 2 railroad companies, consisting altogether of 237 officers and 6,074 men, besides 47 in special services. The train consisted of 23 battalions, with 4,872 horses, numbering 322 officers and 7,963 men, besides 76 in special services. In special formations there were 544 officers and 4,682 men, and there were 2,604 officers and 381 men not attached. The peace strength of the army was fixed by the law of March 25, 1899, which continued in force till March 31, 1901, at 491,136 men, not counting officers and surgeons nor paymasters and other administrative employees. The war strength is estimated at over 3,000,000 trained men. There are 23 army corps, including the Prussian guards, each consisting of 2 infantry divisions of 2 brigades, the brigade containing 2 regiments of 3 battalions, with a regiment of cavalry attached to each division, 1 cavalry division of 4 regiments, with 2 batteries of mounted artillery; 6 field-batteries and 1 mounted battery, with a battalion of train; and 1 battalion of pioneers. The strength of the infantry battalion is 544 men in peace and 1,002 men in war, divided into 4 companies. Each regiment of field-artillery is divided into 3 detachments of 2, 3, or 4 batteries, each battery having 4 guns in peace and 6 in war. There are 494 field-batteries, including 47 of mounted artillery.

A court-martial held at Gumbinnen raised a similar question as to military justice in Prussia to the one that excited France when the proceedings of the first Dreyfus trial were revealed to the public. Capt. von Krosigk was murdered in the barracks on Jan. 22. A non-commissioned officer named Marten and his brother-in-law Häckel were suspected because the murdered officer had often

treated Marten's father with oppressive harshness, and had reproved young Marten the same morning. They were acquitted at the first trial, but Marten, who had escaped when first tried and afterward had given himself up, was condemned to a year's imprisonment for desertion, and a second trial before the superior military court. Marten was condemned to death. The German press raised a protest against this military judgment based on no further evidence than that which had resulted in an acquittal, when even the prosecuting officer did not demand the extreme sentence, but a milder one, on the remarkable ground that the evidence against the prisoner was not convincing. The public press showed that there was no evidence, direct or indirect, against Marten except the motive of enmity which every man shared with him who was subject to the tyranny of the murdered man. Newspapers friendly to the Government cried out against the retention in the army of ill-tempered and overbearing martinets, as well as against perversion of justice in military courts. The dueling code in the German army is a frequent subject of discussion in the Reichstag. Candidates for officers' commissions in the reserves were rejected if they belonged to student societies which condemned dueling. The murder of Capt. Adams at Möhringen by Lieut. Rüger, whose sole motive was to save his brother, who had a family, from the dangers of a duel which a court of honor had decided must be fought, drew the attention of the whole country to the evils of dueling procedure in the army, which the Emperor as head of the army had expressly condemned. In the autumn another flagrant case shocked all Germany—that of an officer who had assisted another who was a stranger to him to his house while the latter was so intoxicated that he did not know what he did, and in that condition struck the man who was helping him. The blow was found by a court of honor cause for a duel, in which the officer who had received it was mortally wounded.

The Navy.—The German navy in the beginning of 1901 had 1 first-class modern battle-ship and 4 building, and 6 not so new, with inferior gun protection; 4 second-class battle-ships; 1 armored cruiser and 1 building; 8 obsolete battle-ships; 19 coast-guards; 15 protected cruisers; 8 torpedo gunboats; 11 destroyers; and 35 first-class and 103 smaller torpedo-boats. A new navy was sanctioned by the Reichstag in 1898, to consist of 17 battle-ships, 8 armored coast-guards, and 9 first-class and 26 smaller cruisers, with a reserve of 2 battle-ships and 3 first-class and 4 smaller cruisers. It was decided to begin 7 of the battle-ships and 2 first-class and 7 smaller cruisers before 1905. The first of the new battle-ships is the Wittelsbach, launched in 1900, of 12,000 tons, with 12 inches of side armor, armed with 4 9.4-inch guns, 18 6-inch quick-firers, and 12 3.4-inch quick-firers, having engines of 13,000 horse-power, giving a speed of 18 knots. The Kaiser Friedrich III, launched in 1896, and the other vessels of this class, the Wilhelm II, Wilhelm der Grosse, Barbarossa, and Karl der Grosse, of 11,180 tons, are as heavily armed as the Wittelsbach and as swift, but their quick-firers are not in armored casemates. The Bismarck, an armored cruiser of 10,650 tons, also armed with 4 9.4-inch Krupps and carrying 12 6-inch quick-firing guns, 10 3.4-inch, and many smaller ones, has engines of 14,000 horse-power, capable of making 19 knots. The Freya, Hertha, Victoria Louise, Vineta, and Hansa, of 5,650 tons, carry 2 8.2-inch, 8 6-inch, and 10 3.4-inch quick-firing guns, all under protection, and there

is no woodwork in the vessels. The new large cruisers that are building will carry 4 11-inch guns and a strong quick-firing armament. The Siegfried class of coast-guards has not been discarded, these small vessels of 3,440 tons having a speed of 16 knots and an armament of 3 9.4-inch guns, with 6 3.4-inch quick-firers. German ships as a rule are armed as heavily as possible, crowded with guns and machinery, leaving scant room for the crews. The heaviest possible energy of fire is the object of German designers. The Krupp quick-firers, however, are not as easy to work as the Canet guns of the French and Russian navies or the Elswick of the British. The German torpedo-fleet is not only very large, but a system of torpedo tactics has been invented for combined action against a squadron.

Commerce and Production.—The yield of wheat in 1900 was 3,847,447 metric tons; of rye, 3,675,792 tons; of barley, 2,985,876 tons; of oats, 6,882,687 tons; of potatoes, 38,486,202 tons; of hay, 23,767,790 tons. There were 4,038,485 horses, 18,490,772 cattle, 10,866,772 sheep, and 14,274,557 pigs in 1897. About one-fourth of the area of Germany is covered with forests, and those which are public property yield large revenues to states and communes, while the private forests are under effective state supervision. Many of the richest mines are owned by states. The production of coal in 1899 was 101,621,900 metric tons; of lignite, 34,202,600 tons; of iron ore, 17,989,700 tons; of zinc ore, 664,500 tons; of lead ore, 144,400 tons; of copper ore, 733,600 tons; of rock salt, 861,100 tons; of potassic salt, 2,500,400 tons; of other minerals, 329,200 tons. The foundries and smelters in 1898 produced 7,312,766 metric tons of pig iron, valued at 378,752,000 marks; 154,867 tons of zinc, valued at 58,834,000 marks; 132,742 tons of lead, valued at 34,222,000 marks; 30,695 tons of copper, valued at 32,728,000 marks; 481 tons of silver, valued at 38,157,000 marks; 993 tons of tin, valued at 1,489,000 marks; 770,197 tons of sulfur and sulfuric acid, valued at 20,521,000 marks; 2,847 kilograms of gold, valued at 7,913,410 marks; and 35,300 tons of nickel, bismuth, and chemicals, valued at 11,808,000 marks, the total product of all the works being valued at 584,424,315 marks. The production of finished iron was 8,523,612 tons, of the value of 1,143,498,729 marks. There were 558 boats, of 36,307 tons, engaged in the North Sea fisheries in the beginning of 1900, with 3,829 men in their crews. The value of fresh herring and other fish exported in 1899 was 3,341,000 marks, while the imports of fresh fish were 21,957,000 marks and those of salt herring 25,782,000 marks, and of other dried, salted, and preserved fish 6,968,000 marks. There were 402 sugar factories in 1899, and they consumed 12,150,642 metric tons of beet-roots producing 1,627,072 tons of raw sugar and 305,869 tons of molasses. The number of kilograms of beets required to produce a kilogram of sugar has been reduced gradually from 8.23 in 1895 to 7.48 in 1899. The production of refined sugar was 1,185,922 tons. There were 28 glucose factories which made 8,196 tons of dry sugar, 36,962 tons of sirup, and 4,405 tons of color. The product of 7,312 breweries in the imperial excise district was 42,269,000 hectoliters; of the Bavarian breweries, 17,455,000 hectoliters; of those of Württemberg, 4,069,000 hectoliters; of the breweries of Baden, 2,947,000 hectoliters; and of those of Alsace-Lorraine, 1,058,000 hectoliters; total, 67,798,000 hectoliters. The production of 60,926 distilleries was 3,815,569 hectoliters of alcohol.

The special imports of Germany have increased from 4,134,070,000 marks in 1893 to 4,246,111,000

marks in 1895, 4,557,951,000 marks in 1896, 4,864,644,000 marks in 1897, 5,439,676,000 marks in 1898, and 5,783,628,000 marks in 1899. The exports of German produce and manufactures have likewise grown steadily from 3,244,562,000 marks in 1893 to 3,424,076,000 marks in 1895, 3,753,822,000 marks in 1896, 3,786,241,000 marks in 1897, 4,010,565,000 marks in 1898, and 4,368,409,000 marks in 1899. In 1900 the total value of imports was 5,557,000,000 marks; of exports, 4,414,000,000 marks.

The total value of the special imports in 1899 includes 300,532,000 marks of precious metals. The value was 5,483,096,000 marks for merchandise alone. The special exports of merchandise were 4,207,049,000 marks, and of precious metals 161,360,000 marks. The imports of merchandise have increased from 4,120,669,000 marks in 1895, and exports of merchandise from 4,246,111,000 marks. The imports of cereals in 1899 were 550,300,000 marks in value; of wool, 428,200,000 marks; of lumber, 295,300,000 marks; of cotton, 243,300,000 marks; of hides and skins, 198,700,000 marks; of silk, 165,000,000 marks; of coal, 156,100,000 marks; of animals, 186,450,000 marks; of coffee, 128,700,000 marks; of seeds, 123,900,000 marks; of iron, 114,300,000 marks; of woolen yarn, 113,400,000 marks; of copper, 106,700,000 marks; of petroleum, 97,300,000 marks; of eggs, 96,300,000 marks; of leaf tobacco, 89,100,000 marks; of Chile saltpeter, 77,700,000 marks; of rubber and gutta-percha, 76,700,000 marks; of fish, 68,100,000 marks; of machinery, 65,700,000 marks; of fat, 65,200,000 marks; of flax and hemp, 59,700,000 marks; of rice, 57,900,000 marks; of hair and feathers, 57,200,000 marks; of cotton yarn, 55,600,000 marks; of oil-cake, 54,200,000 marks; of oil-nuts, 49,900,000 marks; of meat, 49,100,000 marks; of wine, 44,300,000 marks; of tropical fruits, 43,200,000 marks. The import of rye was 64,894,000 marks; of wheat, 180,353,000 marks; of barley, 127,886,000 marks. Horses of the value of 88,791,000 marks were imported, and hogs of the value of 4,936,000 marks.

The exports of iron manufactures were valued at 280,900,000 marks; of drugs, 253,200,000 marks; of coal, 226,300,000 marks; of woollens, 217,200,000 marks; of cottons, 206,100,000 marks; of sugar, 204,100,000 marks; of machinery, 178,000,000 marks; of iron, 154,200,000 marks; of silk manufactures, 142,700,000 marks; of trimmings, 140,400,000 marks; of mixed silk and cotton goods, 113,740,000 marks; of colors, 113,400,000 marks; of clothing, 112,100,000 marks; of hides and skins, 98,300,000 marks; of paper, 97,300,000 marks; of leather goods, 94,500,000 marks; of cereals, 78,800,000 marks; of leather, 71,600,000 marks; of books and maps, 70,600,000 marks; of wool, 64,800,000 marks; of pottery, 64,100,000 marks; of wood manufactures, 63,000,000 marks; of paintings and engravings, 62,200,000 marks; of copper goods, 59,900,000 marks; of woolen yarn, 57,300,000 marks; of instruments, 53,900,000 marks; of rubber goods, 51,300,000 marks; of glass, 42,600,000 marks; of seeds and plants, 42,571,000 marks; of animal products, 40,634,000 marks; of fats and oils, 34,656,000 marks; of live animals, 19,714,000 marks; of hops, 17,053,000 marks. The export of aniline dyes was 74,925,000 marks; of coarse cotton cloth, 74,720,000 marks; of hosiery, 90,174,000 marks.

The values of imports from and exports to various countries in 1899, in marks, are shown in the table on the following page.

Navigation.—The number of vessels in the foreign and coasting trade entered at German ports during 1898 was 86,614, of 17,704,824 tons, of

COUNTRIES.	Imports.	Exports.
German free ports.....	19,300,000	78,000,000
Great Britain.....	777,100,000	851,600,000
Netherlands.....	203,300,000	327,700,000
Belgium.....	246,100,000	207,100,000
France.....	303,100,000	216,700,000
Switzerland.....	176,300,000	284,700,000
Austria-Hungary.....	730,400,000	466,000,000
Denmark.....	77,500,000	125,800,000
Norway.....	24,800,000	77,000,000
Sweden.....	104,200,000	136,100,000
Russia.....	715,900,000	437,300,000
Roumania.....	21,100,000	36,800,000
Turkey.....	28,900,000	32,600,000
Italy.....	197,000,000	116,000,000
Spain.....	69,500,000	44,000,000
Portugal.....	15,900,000	18,900,000
Rest of Europe.....	16,400,000	14,700,000
United States.....	907,200,000	377,600,000
Canada.....	4,200,000	23,700,000
Mexico.....	11,800,000	22,300,000
Central America.....	29,600,000	4,100,000
Cuba and Porto Rico.....	12,900,000	9,800,000
Hayti.....	9,400,000	1,200,000
Venezuela.....	9,400,000	4,000,000
Brazil.....	91,000,000	46,500,000
Uruguay.....	194,500,000	52,300,000
Argentine Republic.....	93,400,000	28,100,000
Chile.....	31,900,000	9,700,000
Egypt.....	30,000,000	11,300,000
Cape Colony.....	250,500,000	65,300,000
British India.....	62,400,000	19,500,000
Dutch India.....	29,000,000	50,600,000
China.....	16,500,000	40,900,000
Japan.....	121,100,000	37,800,000
Australia.....	152,900,000	82,300,000
Other countries.....		
Total.....	5,783,600,000	4,368,400,000

which 74,954, of 16,484,043 tons, had cargoes and 11,660, of 1,220,781 tons, were in ballast; the number cleared was 87,637, of 17,812,760 tons, of which 64,187, of 12,010,004 tons, carried cargoes and 23,450, of 5,802,756 tons, sailed in ballast. Of the total number entered with cargoes 55,552, of 8,747,695 tons, were German, and 19,402, of 7,736,348 tons, were foreign, including 5,365 British, of 4,440,757 tons; 4,233 Swedish, of 1,006,073 tons; 5,078 Danish, of 860,099 tons; 1,635 Norwegian, of 695,110 tons; 2,273 Dutch, of 330,558 tons; and 592 Russian, of 197,138 tons. Of the total number entered in ballast 9,462, of 778,527 tons, were German, and 2,198, of 442,254 tons, were foreign. Of the total number cleared with cargoes 50,899, of 7,659,547 tons, were German, and 13,288, of 4,350,457 tons, were foreign, including 3,044 British, of 2,035,864 tons; 2,717 Swedish, of 724,891 tons; 4,466 Danish, of 716,624 tons; 891 Norwegian, of 347,095 tons; 1,642 Dutch, of 265,143 tons; and 373 Russian, of 134,507 tons. Of the vessels cleared in ballast 15,193, of 2,024,947 tons, were German and 8,257, of 3,777,809 tons, were foreign.

The German merchant navy on Jan. 1, 1900, comprised 2,466 sailing vessels, of 587,639 tons, of which 2,066, of 548,918 tons, belonged to North Sea ports, and 400, of 38,721 tons, to Baltic ports; and 1,293 steamers, of 1,150,159 tons, of which 853, of 970,130 tons, belonged to North Sea ports, and 440, of 180,029 tons, to Baltic ports. Of the total number of sailing vessels 47 were over 2,000 tons, 202 between 1,000 and 2,000, 109 between 500 and 1,000, 306 between 100 and 500, and 1,802 under 100; while of the steamers 154 were under 100, 352 between that and 500, 251 from 500 to 1,000, 212 from 1,000 to 2,000, and 324 2,000 tons and over. Of the sailing vessels 619 and of the steamers 1,901 were built entirely of steel or iron.

Railroads, Posts, and Telegraphs.—The total length of railroads in the German Empire in 1898 was 30,950 miles, representing a capital of 12,224,549,000 marks. The gross receipts in 1898 were 1,849,094,000 marks, and the expenses were

1,123,413,000 marks. The net profit was 5.94 per cent. on the capital. The Imperial and state Governments owned all except 2,376 miles. There were 995 miles of narrow-gauge lines, and 448 miles were Government lines. The number of passengers carried in 1898 was 762,849,000, and 488,225,000 marks; tons of freight, 304,536,000, paying 1,162,017,000 marks. The total length of railroads in 1900, including narrow-gauge lines, was 31,158 miles.

The number of letters that passed through the imperial post-office during 1899 was 1,390,643,650; of postal cards, 715,099,110; of book packets, 723,457,460; of circulars, 51,393,650; of remittances, 117,409,961; of post-office orders, 5,175,760; of newspapers, 1,083,749,052; of parcels, 157,605,305; of money packets, 2,909,737; of money letters, 8,651,975; value of money sent, 23,726,074,611 marks. The Bavarian post-office forwarded 151,566,120 letters, 47,472,380 postal cards, 70,279,174 book packets, 4,453,530 circulars, 11,836,273 postal remittances, 515,751 post-office orders, 212,598,266 newspapers, 15,162,867 parcels, 412,781 money packets, 1,011,519 money letters; amount of money sent, 2,477,599,763 marks. The Württemberg post-office handled 61,063,990 letters, 30,323,670 postal cards, 36,053,051 book packets, 1,425,580 circulars, 5,679,559 remittances, 214,331 post-office orders, 54,627,438 newspapers, 8,276,658 parcels, 253,968 money packets, and 559,806 money letters; value of money sent, 1,063,328,322 marks.

The length of the imperial telegraph-lines in 1899 was 65,100 miles, with 251,615 miles of wire; number of internal messages sent, 28,731,112; foreign messages, 11,134,856. The length of the Bavarian lines was 9,885 miles, with 27,013 miles of wire; internal messages, 2,510,493; foreign messages, 1,265,199. The Württemberg lines had a length of 2,925 miles, with 7,147 miles of wire; internal messages, 1,265,199; foreign messages, 236,976. The receipts of the imperial postal and telegraph services in 1899 were 373,633,901 marks, and expenses 332,105,216 marks; receipts of the Bavarian services were 34,113,275 marks, and expenses 29,263,684 marks; receipts in Württemberg were 15,693,462 marks, and expenses 13,519,492 marks; total postal and telegraph receipts of Germany, 493,440,638 marks; total expenses, 374,888,392 marks. There were 21,774 miles of local telephone-lines with 276,330 miles of wire in 1899, over which 540,324,386 conversations were held. The length of long-distance lines was 16,710 miles, with 107,730 miles of wire; number of conversations, 81,071,442.

Legislation.—The commercial treaties approved by the Reichstag in 1891 and 1892 were vigorously opposed by the Agrarians, who in 1894 compassed the fall of Count von Caprivi, the Chancellor that carried them through, and since then the Agrarian League has kept up an agitation in favor of a more effective protection of agricultural products. The Agrarians in the Reichstag and the Prussian Landtag constitute the bulk of the two Conservative parties and a large section of the Clerical Center. Prince Hohenlohe throughout his chancellorship was frequently called to account by the Agrarians for his alleged indifference to agricultural interests. They defeated the canal bill in the Landtag session of 1899 and altered the meat inspection bill from a sanitary measure to one practically putting a stop to the importation of foreign meat. The navy bill could hardly be passed without a pledge on the part of the Government to increase the duties on cereals, and it was hopeless to attempt to secure the sanction of the Prussian Chambers for the canal bill, which the Government was de-

remained to reintroduce. The tariff had to be revised in connection with the negotiation of new commercial treaties, and the Agrarian party was strong enough to dictate the import duties on agricultural products to be inserted in the new tariff and provided for in the new treaties. Count von Bilow, who was expected to show more firmness than his predecessor, capitulated, promising adequate protection for products of German agriculture. He wished to carry the tariff bill through in time to permit the conclusion of new treaties before the expiration of the old ones. It would be scarcely possible to prolong the existing treaties for a further period of ten years or less, because other governments were revising their treaty relations, such revision being rendered necessary by technical industrial improvements. The commercial treaty with Great Britain, which expired before most of the others, was prolonged provisionally, and a further prolongation was arranged until Dec. 31, 1903, the date on which the treaties with Austria-Hungary, Italy, Russia, and other European states expire by limitation. All British colonies were admitted to the advantages of the treaty excepting Canada, which has a tariff discriminating in favor of British goods.

In the spring session the Reichstag imposed a duty of 80 marks a kilogram on saccharin, more than five times the retail price of the article, and prohibited the use of artificial sweetening substances in manufactured food preparations. This measure was intended to protect the German beet-sugar industry against the competition of chemical sweet stuffs. A copyright bill was passed which embodies a thorough revision of the law made in 1870. The international copyright convention concluded at Bern in 1886 and the supplementary articles and declaration signed at Paris in 1896 led to a general demand for more effective protection of rights of private property in works of literature and music. The new law strengthens the exclusive right of writers to authorize translations of their works, gives more efficient protection to foreigners whose works are published in Germany, forbids the republication without giving credit of scientific, technical, or literary articles appearing in the newspaper and periodical press, but not of news of the day or items of information. Some proposed to give the measure a political application by creating a copyright in speeches, such as the Kaiser makes frequently. Summaries of speeches which bear the impress of the literary style of the reporter are protected, and collections of speeches must not be published without authority from the orator. It is an infringement of copyright when melodies are taken from a work of music and made the basis of a new composition. Copyrighted music may, however, be used in automatic and mechanical and musical instruments, this being allowed in order not to place German manufacturers of such instruments at a disadvantage, but in general musical compositions must not be produced in public without the consent of the composer except in concerts free to the public or given for charitable objects. The duration of copyright in literary, dramatic, or musical works is the lifetime of the author and thirty years after his death. The international convention regarding patent rights, designs, and trade-marks, signed at Paris on March 20, 1883, did not receive the adhesion of Germany because certain important provisions of the treaty did not harmonize with German patent laws. Accepting the principle of the union, Germany sought to conform to the treaty as far as was compatible with her own

laws in conventions made with Austria-Hungary, Italy, Servia, and Switzerland. In the union a disposition was shown to remove the provisions that Germany would not accept, and in conferences at Brussels in 1897 and 1900 a complete agreement was reached, especially in regard to the priority term within which patent rights can be obtained, which the states of the union extended twelve months to suit Germany, and in regard to the compulsory execution of the treaty rights. It was agreed that a period of three years from the time of application should be allowed before an inventor is bound to utilize his patent. The amended international convention was signed by Germany and the other powers on Dec. 14, 1900.

The prorogation of the Reichstag from May 14 till Nov. 26 was announced on May 9. The adjournment for six months was due to the slim attendance of members. When the Prussian Landtag separates a great many of the Reichstag members who are also Prussian Deputies, receiving pay for their attendance, return to their homes. The Reichstag voted in favor of the payment of members, as it had done 11 times before, but the Imperial Government gave no more heed to the proposal than in former years. On the day of adjournment the Agrarians tried to rush through a measure for the benefit of the land-owning distillers, an amendment to a bill provisionally prolonging the law regulating the production and the taxation of potato and other German spirits which would increase 50 per cent. the tax on distilling, out of which the distillers of drinkable spirits receive a bounty. The Radicals and Socialists blocked their design by demanding a roll-call when there was not quite a quorum of members present. The result was that the special duty on distilling lapsed on Sept. 30, and with it the special bounties of the distillers. A bill for seamen and one providing for the construction of the railroad in East Africa, by a syndicate which held its offer open only to June 30, could not be passed. An epileptic boy made an attempt on the life of the Emperor Wilhelm at Bremen on March 23.

The Rhine and Elbe Canal project was one that the Kaiser made his own. The Agrarians on the committee wasted its time and that of the Prussian Chamber in empty discussion intended only for the purpose of procrastination. Some of the Prussian ministers, especially the Vice-President of the Council, Dr. von Miquel, were but lukewarm supporters of the scheme. The rejected bill of 1899 was laid before the Landtag with supplementary features by which all the great rivers of north Germany would be united by a canal system. It was proposed to connect by a canal the Oder and the Vistula, to regulate the Warthe from the mouth of the Netze as far as Posen, to improve the current in the lower reaches of the Oder and the Havel, to develop the canalization of the Spree, and eventually to bring upper Silesia into communication with Berlin by the regulation of the Oder, and if economically desirable, to build a canal to the Masurian lakes in east Prussia. The finances of Prussia were flourishing, if those of the empire were not. The railroads and the state coal-mines produced an increased surplus, but the commercial depression that was overtaking Germany was likely to affect these revenues. The Finance Minister, Dr. von Miquel, while debt-ridden landowners were clamoring for state assistance, was determined to maintain his policy of economy except in non-recurring expenditures on permanent improvements. The housing of the poor was a question that demanded solution, and the Prussian state intended to renovate the

poorer quarters of the cities gradually, and to promote cooperative building associations. The estimate of the cost of a canal connecting the Rhine, the Weser, and the Elbe was 260,800,000 marks, of a waterway for vessels from Stettin to Berlin at 41,500,000 marks, of a canal connecting the upper Weichsel with the Warthe and Netze at 22,600,000 marks, of a canal from the upper Spree into Silesia at 4,100,000 marks. For improving the lower Oder the Government would provide 41,000,000 marks of the cost, for the lower Havel 9,700,000 marks, and for the Spree 9,300,000 marks. The canals in the east were intended as compensation to the landowners in the stronghold of agrarianism to secure their consent to the Elbe Canal, which would benefit the industries of the western provinces of Prussia. The Conservatives feared, however, that any improvement in means of communication would endanger the market for their produce, and resented the proposal for spending large sums for any other object than the benefit of agriculture. The Catholics of Silesia joined the gentry of East Prussia in opposing the bill, fearing the competition of Westphalian and Rhenish manufactures with the industrial products of their province and of English coal with the Silesian. The opponents of the Elbe Canal were willing to accept the compensation, the canals in the east that would cost 120,000,000 marks, but would not pass the Government bill as a whole, and on May 3 Count von Bülow as Minister-President declared the session closed. A ministerial crisis was the result of the failure of the ministers to carry through the Government project. Dr. von Miquel had to give up the vice-presidency of the Council and the Ministry of Finance, Baron von Hammerstein-Loxten the Ministry of Agriculture, Herr Brefeld the Ministry of Commerce. The new appointments were announced on May 6. Theodor Möller became Minister of Commerce; Gen. von Podbielski resigned the imperial Post-Office, in which he was succeeded by Herr Krätke, one of his subordinates, to become Prussian Minister of Agriculture; Baron von Hammerstein was made Minister of the Interior, Baron von Rheinbaben being transferred to the Ministry of Finance. No new Vice-President of the Council was appointed, as Count von Bülow resolved to preside over the ministry in person.

During the vacation of the Reichstag the schedules of the new tariff bill were arranged with the federated governments. It stipulated that in concluding commercial treaties the duties on cereals should not be less than 50 marks a ton for rye, 55 marks for wheat, 50 marks for oats, and 30 marks for barley. The duties in force were 35 marks for rye and wheat, 28 marks for oats, and 20 marks for barley. The maximum or autonomous scale of duties to be applied to countries having no commercial treaties with Germany were only 10 marks higher than the minimum scale. The duties on other agricultural products were increased greatly, in some cases trebled. The duty on cattle was raised from 9 marks to 25 marks a head; on meat, from 200 to 300 marks a ton. Russia, even more seriously than the United States, was affected by the new grain duties, as was Hungary, and the latter as severely also by the duties on animals. The Bismarckian maxim that political alliances are compatible with strained commercial relations was called in question in Austria-Hungary. The unpopularity of the proposed tariff in Germany was made manifest by a remarkable increase of the Socialist vote in the elections to fill vacancies in the Reichstag. The duty on maize was increased from 14 to 40

marks; on buckwheat, from 20 to 40 marks; on beans, from 15 to 40. Clover-seed, which was free before, had to pay a duty of 50 marks. These duties made negotiations with the United States more difficult, and so also did the impost of 6 marks a quintal on packed apples and other fruits, and higher duties on dried fruit and on lard, margarin, bacon, butter, and cheese. The duty on horses was adjusted so as to produce 10 per cent. ad valorem. In the new tariff ship-building materials were exempted from duty. Coal remains free. For oil-seeds a drawback was allowed on the export of oils. The duty of 2 marks on eggs was trebled, to the detriment of both of Germany's military allies, who were affected also by the uniform duty of 24 marks on wines, some of which paid only 6 marks under the old tariff. Fish were made free of duty for the encouragement of German fishermen, except carp, on which a high rate is charged. The imposition of a duty on geese and feathers was another cause for Russian complaints. A prohibitive duty was placed on starch sugar, previously free, and as the complement to the saccharin bill an enormous duty was imposed on artificial sweet stuffs. Commercial fertilizers were made duty free. The rates on timber were greatly increased, and to the dismay of the tanners a duty was imposed on imported bark. The chemical industries, which heretofore have had no tariff protection and needed none, obtained duties on phosphorus, tartar, and various other products. The duty on pig iron was not altered, but duties on iron manufactures were made higher, and that on bicycles was increased over sixfold, a blow at American competition. The bill imposed on the Government extensive powers of reprisal to be used as a means of bringing to terms powers unwilling to accept the minimum tariff. The Federal Council is empowered to impose additional duties upon goods imported from countries which treat German goods less favorably than those of other countries up to double the tariff rates or to the full value of the goods imported, and free goods may be taxed up to half their value.

Dependencies.—The possessions of Germany over the seas comprise about 930,760 square miles in Africa, containing an estimated population of 14,200,000 (see EAST AFRICA, SOUTH AFRICA, and WEST AFRICA); the harbor and district of Kiauchau Bay, in China, with a land area of 200 square miles and 60,000 inhabitants; and in the Pacific Ocean, Kaiser Wilhelm's Land in New Guinea, having an area of 70,000 square miles and 110,000 inhabitants, the Bismarck Archipelago, with an area of 20,000 square miles and 188,000 inhabitants, and the Solomon Islands, with an area of 4,200 square miles and 45,000 inhabitants, all three protectorates under the administration of an Imperial Governor, R. von Bennigsen, who resides at Friedrich Wilhelmshafen; the Marshall Islands, with the Brown and Providence groups, having an area of 150 square miles and 13,000 inhabitants, administered by a commissioner, Herr Brandeis; the Caroline, Palaos, and Marianne Islands, obtained from Spain in 1899, having a total area of 560 square miles and 40,000 inhabitants, administered by Dr. Hahl as Vice-Governor; and the Savaii and Upolu in the Samoan group (see SAMOA).

Kiauchau has a permanent garrison of 1,500 marines and artillerists. A neutral zone 30 miles broad, about 2,500 square miles in area, is policed by German troops, and the exploitation of the Wiehsien and Pashan coal-mines, to be connected with Kiauchau by railroad, has been reserved for German capital. The Imperial Government in

1901 granted 9,780,000 marks for the expense of administration, while only 213,000 marks were raised locally.

The German New Guinea Company has the concession of the trade of *German New Guinea* and of the other possessions now united with it. The company surrendered the administration to the Imperial Government on April 1, 1899. Cotton and tobacco and coffee have been planted. Over 36,000 coconut-palms are preserved. The area and sago-palms, as well as bamboo, ebony, and many other valuable woods, grow in the country. Cattle and goats are reared. The chief exports, besides copra, are mother-of-pearl and trepang. Gold is found in the Bismarck mountains. The European inhabitants in 1899 were 58 in number. The administrative expenses for 1900 were 923,000 marks, of which sum 848,000 marks were contributed from the imperial treasury.

The *Caroline, Palao, and Marianne Islands*, purchased from Spain for 16,750,000 marks, are governed under the direction of the Governor of New Guinea, but will have a separate administration. The eastern islands will be administered from Ponape, the western Carolines and the Palaos from Yap, and the German part of the Mariannes or Ladrões from the island of Saipan. The islands cost the Imperial Government 370,000 marks a year. Copra is exported from all the islands and tortoise-shell and mother-of-pearl from the Palaos. There are 900 whites in the Carolines, which are inhabited by a Malay race with an admixture of Chinese and Japanese. On April 12, 1901, Herr Senft, the imperial administrator at Yap in the Carolines, raised the German flag over the island of *Tobi* and the adjacent Helen Riff. Tobi is covered with coconut-palms, and has a population of about 500.

Bismarck Archipelago includes New Britain and adjacent groups, annexed as a German protectorate in 1884. There were 200 Europeans in 1899, of whom 96 were Germans. There were also 64 Chinese and 68 Samoans and Fijians working on the plantations. The imports for 1899 were 1,060,000 marks in value; exports, 939,110 marks. The export of copra was 726,400 marks; of trepang, 120,800 marks.

The German *Solomon Islands*, diminished by the transfer to Great Britain of Choiseul, Mahaga, and other islands east of Bougainville, export sandalwood and tortoise-shell.

The *Marshall Islands* had 79 European residents in 1899 and exported 2,729 tons of copra.

GIFTS AND BEQUESTS. The following list comprises the most notable gifts and bequests for public purposes of \$5,000 and upward in amount and value that were made, became operative, or were completed in the United States in 1901. It excludes the ordinary denominational contributions for education and benevolent purposes, or State and municipal appropriations to public and sectarian institutions, and the grants of Congress for various measures of relief. The most striking feature of the gifts and bequests of the year is the exceedingly large individual amounts. Mrs. Leland Stanford consummated her long-planned endowment of Leland Stanford, Jr., University, which is now the wealthiest educational institution the world has ever known; Andrew Carnegie gave to colleges and for public libraries more than \$31,000,000, and at the close of the year had conditional offers pending of several millions more; and J. Pierpont Morgan, John D. Rockefeller, Dr. Daniel K. Pearsons, Mrs. Emmons Blaine, Helen M. Gould, and other men and women noted for their philanthropy, continued to promote the interests with which their names long have been

identified. The known value of the gifts and bequests here enumerated exceeds \$107,360,000.

Adams, Benjamin, Derry, N. H., bequest to the town for a public hall and library, \$10,000.

Adams, Mrs. Charles Kendall, Madison, Wis., gift to Madison Art Association, jewels valued at \$10,000.

Adams, Herbert Baxter, Baltimore, Md., bequests to Amherst College, \$2,000; the American Historical Association, \$5,000; the town of Amherst, his residence and its contents; and Johns Hopkins University, the residue of his estate.

Adams, Mr. and Mrs. Quincy. See AGASSIZ, ALEXANDER.

Adelphi College, Brooklyn, N. Y., gift from a friend to its endowment fund, \$5,000.

Agassiz, Alexander, Newport, R. I., gift to the Cole School of Science, for scientific apparatus, \$5,000.

Agassiz, Alexander, Mr. and Mrs. Quincy Adams, and Mrs. Henry L. Higginson, joint gift to Harvard University for completion of museum, \$100,000.

Allegheny College, Meadville, Pa., gift from a friend to its endowment fund, \$60,000, conditional upon the raising of \$140,000 additional within ten months.

Allen, Dr. C. R., New York, gift to the New York Botanical Garden, a collection of stone-works said to be one of the most costly in the world.

Alms, Mrs. Frederick H., Cincinnati, Ohio, gift to the University of Cincinnati for a music-hall, \$100,000.

Amherst College, gift from friends to its endowment fund, \$50,000.

Andrus, John E., Yonkers, N. Y., gift to Wesleyan University, \$25,000.

Angus, James, West Farms, N. Y., gift to the museum at Roger Williams Park, a collection of corals, polished agates, and books, valued at \$15,000.

Appley, James L., Springfield, Mass., bequests to the University of Pennsylvania, \$6,000; American Board of Commissioners for Foreign Missions, \$1,000; Springfield Hospital, Home for Aged Women, Massachusetts Home Missionary Society, Olivet Church, and the city of Springfield, each \$500.

Archbold, John D., New York, gift to endowment of Syracuse University, \$400,000, supplementing annual gifts of \$40,000 to \$60,000 for several years.

Armour, George A., Chicago, Ill., gift to Princeton University, for the maintenance and development of the classical seminary, \$2,500 a year for five years.

Armour Institute of Technology, Chicago, gift of a memorial window in memory of Philip D. Armour, Jr., value \$10,000.

Armour, Mrs. Philip D., and son, J. Ogden Armour, Chicago, Ill., joint gift to Armour Institute, for a school of engineering and a model workshop, \$1,000,000, subsequently increased by \$250,000. These gifts were in accordance with the wishes of Philip D. Armour, who made no specific bequest to the institute he had founded.

Armstrong, George W., Boston, Mass., bequests to the Massachusetts Institute of Technology and Bates College, each \$5,000.

Astor, John Jacob, New York, gift to the Cathedral of St. John the Divine, a complete set of chimes and mountings.

Atwill, Cornelia A., New York, bequests to the Protestant Episcopal Church, Poughkeepsie, \$10,000; Gallaudet Home for Deaf-Mutes, \$5,000; and the following to become operative at the death of one of the heirs: Cathedral of St. John

the Divine, Fund for the Relief of Widows and Orphans of Deceased Clergymen, St. Luke's Hospital, Home for Old Men and Aged Couples, and St. Luke's Home for Indigent Christian Females, each \$10,000.

Avery, Mrs. S. P., New York, gift to the Woman's Hospital for a permanent bed, \$5,000.

Balch, Mrs. Emeline, Manchester, N. H., bequests to the Manchester Institute of Art and Science, her residence in Manchester and \$5,000; Bates College, Lewiston, Me., and North Street Free Baptist Church, Bath, Me., each \$5,000; Eliot Hospital, Manchester, N. H., \$3,000; Franklin Street Congregational Church, Manchester, Manchester Children's Home, and New Hampshire Orphans' Home, each \$2,000; and the Mercy Home, Manchester, \$1,000.

Baldwin Locomotive Works, Philadelphia, gift to University of Pennsylvania toward the new engineering building, \$25,000.

Ballard, Stephen, Brooklyn, bequests to the American Missionary Society of New York, \$100,000; Berea College of Kentucky, \$50,000.

Barnes, Alfred C., Brooklyn, N. Y., gift to Cornell University, an observatory equipped with the latest astronomical facilities.

Bates College, Lewiston, Me., gift for the library, \$20,000; and for scholarships, \$6,700.

Bell, James A. H., Brooklyn, bequests to Brooklyn Institute and Brooklyn Library, each, sixteen of the seventy-five parts into which the estate, estimated at \$1,000,000, is to be divided; to Brooklyn Library, 2,000 books.

Benton, Everett C., Waverly, Vt., gift to Guildhall, Vt., a public library and Masonic Hall.

Bishop, Franklin H., Russell, Mass., bequest to the Commonwealth of Massachusetts, use not specified, \$7,000.

Bishop, Hubert F., South Norwalk, Conn., gift to the town, a site for a library, \$10,000.

Blackstone, Mrs. T. B., Chicago, gift to the city for a library, \$100,000.

Blaine, Mrs. Emmons, Chicago, gifts to the School of Education of the University of Chicago, \$1,000,000, and for a Northside elementary school, \$30,000.

Blaisdell, S. J., Boston, blind piano-maker, bequest to Perkins Institute for the Blind, his estate of \$10,000, for the benefit of blind pupils.

Blakeslee, Alfred E., New Haven, Conn., bequests to the Young Men's Christian Association and Welcome Hall Mission, each \$5,000; Home for the Friendless and Ladies' Seamen's Friend Society, each \$3,000; and New Haven Orphan Asylum and Young Women's Christian Association, each \$2,000.

Blessed Sacrament Church, New York, gift from friends, a new parish house, \$30,000.

Bliss, George T., New York, bequest to Yale University, \$50,000.

Borden, M. C. D., New York, gift to Yale University, \$100,000.

Boston Institute of Technology, gifts from friends, fund for a gymnasium and social center for the students, \$100,000.

Bourne, F. G., Sayville, Long Island, N. Y., gift to St. Anne's Church there, \$5,000.

Bowman, George W., gift to the People's Church of America, \$1,000,000.

Bowne, E. W., New York, gift to Syracuse University, \$12,500.

Bowne, Samuel S., New York, gift to the Twentieth Century fund of the Methodist Episcopal Church, \$100,000.

Boyle, John T., Fond du Lac, Wis., gift to the city for a sanitarium, \$50,000.

Breckenridge, George W., San Antonio, Texas, gift to the city for a schoolhouse for colored children, \$20,000.

Brick Presbyterian Church, New York, gift to extend the Church industrial work on the West Side, \$50,000.

Brockway, N. C., New Haven, Conn., gift to the Albany Hospital, Albany Orphan Asylum, Home for Aged Men, New York Homeopathic Hospital and Dispensary, and Fairview Home for Penniless Children, all in Albany, N. Y., and the Farmham Reformatory, in Columbia County, New York, each \$2,000; and for other charitable purposes, the bulk of his estate, valued at \$100,000.

Brown, A. D., St. Louis, Mo., gift to the Missouri Baptist Sanatorium, \$50,000.

Brown, John Nicholas, estate, Newport, R. I., gift to Brown University of the library of Americana collected by John Carter Brown, \$150,000 for a library building, and \$500,000, the income of which is to support the library.

Brown, Mrs. Susan A., bequest to Dartmouth College for library of philosophy, \$10,000.

Brown University, Providence, R. I., gifts to its endowment fund, \$2,000,000, which amount includes gifts from John D. Rockefeller and John Nicholas Brown noted elsewhere.

Brownell, Mary Eastman Davis, Detroit, Mich., bequests to the Presbyterian Board of Foreign Missions, \$10,000; Michigan Female Seminary, Kalamazoo, and Alma (Mich.) College, each \$5,000.

Bryn Mawr College, Bryn Mawr, Pa., gift from citizens of Philadelphia, \$50,000.

Buck, Charlotte S., Brooklyn, bequests to Brooklyn Society for the Relief of Reputable Aged Indigent Females, \$10,000; American Bible Society, American Seamen's Friends' Society, American Board of Commissioners for Foreign Missions, American Home Missionary Society, Brooklyn City Hospital, Long Island College Hospital, American Missionary Society, Brooklyn Young Women's Christian Association, each \$5,000, the residue to be divided among the first four societies.

Buhl, Frank H., Sharon, Pa., gift to the city for a public building, providing the city maintains it, \$200,000.

Bulkley, Edwin M., New York, gift to Mount Hermon School, East Northfield, Mass., \$5,000.

Burghard, Jacob Thomas, Louisville, Ky., bequest to the German Baptist Orphan Asylum of Louisville, \$10,000.

Burgy, Henry V., bequests to the Rahway (N. J.) Industrial Home, \$10,000; also works of art to the Metropolitan Museum of Art, New York.

Butler, Ammi R. R., Milwaukee, Wis., bequest to Milwaukee Law Library Association, on condition that the name be changed to Butler Law Library Association, \$10,000.

Buzzell, Oscar W., Lynn, Mass., bequest to Lynn Hospital and Lynn Home for Aged Women, each \$2,000; Warren Council, Order of United American Mechanics, Winnepurkit Tribe of Red Men, and Peter Woodland Lodge, Knights of Pythias, each \$500.

Byers, Alexander W., Pittsburg, Pa., gift to Yale University as a memorial for a Byers Memorial Hall.

Byers, Mrs. A. M., Allegheny, Pa., gift to Yale University, \$100,000.

Callahan, Mrs. Katherine D., New York, bequests to Female Academy of the Sacred Heart, a monstrance; Roman Catholic Orphan Asylum, and St. Francis's Hospital, each \$5,000; Sisters of the Divine Compassion and St. Vincent de Paul Society, each \$2,000; and Society of Helpers

of the Holy Soul and St. Joseph's Home for the aged, each \$1,000.

Callahan, Mrs. Martha, bequest to Tuskegee (Ala.) Institute, \$20,000.

Callender, Robert, family of, gift to Yale University to found a scholarship, \$6,000.

Campbell, Mrs. Mary, St. Louis, Mo., bequests to four religious and charitable institutions of that city, \$10,000.

Carnegie, Andrew, New York, gifts for a technical school in Pittsburg, Pa., \$2,000,000, with promised endowment of at least \$25,000,000; to the Government of the United States to establish in Washington a university for higher education, \$10,000,000; to establish 65 branch libraries in Greater New York, \$5,200,000; to endow a fund for superannuated and disabled employees of the Carnegie Company, \$4,000,000; to the libraries at Braddock, Homestead, and Duquesne, Pa., in addition to previous gifts, a total of \$1,000,000; to the Carnegie Institute, Pittsburg, \$1,000,000; to Detroit, Mich., and San Francisco, Cal., for Central Library and branches, each \$750,000; to Cooper Union, New York, \$300,000; to Syracuse, N. Y., for library purposes, \$260,000; Upper Iowa University, Fayette, Iowa, \$225,000; to rebuild library at Seattle, Wash., \$200,000; to Bellevue Medical College, New York, \$76,000; to Carnegie Laboratory, New York, \$50,000; to Aurora (Ill.) College, \$50,000; to Knox College, Galesburg, Ill., for a library building, \$50,000; to Cornell College, Mount Vernon, Iowa, for a library building, \$40,000; to New York Botanical Gardens, \$30,000; to Society of Mechanics and Tradesmen, New York, \$25,000; to Allegheny Observatory, \$20,000; to Carnegie Library, Atlanta, Ga., in addition to previous gifts, \$20,000; to Young Men's Hebrew Association, New York, \$5,000; New York Educational Alliance, \$2,500; and for public libraries in 119 cities and towns, in amounts of \$100,000 and under, as follow: Aberdeen, S. Dak., \$15,000; Alameda, Cal., \$35,000; Ashtabula, Ohio, \$15,000; Aurora, Ill., \$50,000; Austin, Minn., \$12,000; Beloit, Wis., \$25,000; Burlington, Vt., \$50,000; Canandaigua, N. Y., \$10,000; Canton, N. Y., \$30,000; Canton, Ohio, \$50,000; Carbondale, Pa., \$25,000; Carrollton, Ill., \$10,000; Catskill, N. Y., \$20,000; Cedar Rapids, Iowa, \$75,000; Centralia, Ill., \$15,000; Charleston, Ill., \$18,000; Charlotte, N. C., \$20,000; Charlottesville, W. Va., \$20,000; Chattham, N. Y., \$15,000; Chattanooga, Tenn., \$50,000; Clinton, Mass., \$25,000; Clinton, Iowa, \$30,000; Cohoes, N. Y., \$25,000; Conneaut, Ohio, \$100,000; Covington, Ky., \$75,000; Crawfordsville, Ind., \$25,000; Davenport, Iowa, \$75,000; Decatur, Ill., \$60,000; Elkhart, Ind., \$30,000; Elwood, Ind., \$25,000; Fargo, N. Dak., \$20,000; Fort Scott, Kan., \$15,000; Fort Wayne, Ind., \$75,000; Freeport, Ill., \$30,000; Fresno, Cal., \$30,000; Galesburg, Ill., \$50,000; Gloversville, N. Y., \$25,000; Goshen, Ind., \$25,000; Grand Junction, Col., \$8,000; Great Falls, Mont., \$30,000; Green Bay, Wis., \$25,000; Greenville, Ohio, \$25,000; Griffin's Corners, N. Y., \$5,000; Grosdale, Ill., \$35,000; Hawarden, Iowa, \$5,000; Hempstead, Long Island, \$25,000; Henderson, Ky., \$25,000; Iron Mountain, Mich., \$15,000; Ishpeming, Mich., \$20,000; Islip, N. Y., \$10,000; Jackson, Mich., \$70,000; Jackson, Tenn., \$30,000; Jacksonville, Ill., \$40,000; Janesville, Wis., \$30,000; Johnstown, N. Y., \$20,000; Joplin, Mo., \$40,000; Kansas City, Mo., \$75,000; Kent, Ohio, \$10,000; Kewanee, Ill., \$50,000; Lawrence, Kan., \$25,000; Leadville, Col., \$100,000; Lewiston, Me., \$50,000; Lincoln, Ill., \$25,000; Los Gatos, Cal., \$10,000; McKees Rocks, Pa., \$20,000; Macon, Ga., \$20,000; Madison, Ind., \$20,000; Mankato, Minn., \$40,000; Marion, Ind., \$50,000; Mattoon, Ill., \$20,

000; Miles City, Mont., \$10,000; Moline, Ill., \$37,000; Montclair, N. J., \$30,000; Montgomery, Ala., \$50,000; Mount Vernon, N. Y., \$35,000; Muncie, Ind., \$50,000; Nashville, Tenn., \$100,000; Neenah, Wis., \$10,000; New Castle, Pa., \$30,000; New Rochelle, N. Y., \$25,000; Niagara Falls, N. Y., \$50,000; Norfolk, Va., \$50,000; Norwalk, Conn., \$20,000; Oil City, Pa., \$40,000; Paducah, Ky., \$35,000; Pekin, Ill., \$10,000; Pensacola, Fla., \$15,000; Perth Amboy, N. J., \$20,000; Peru, Ind., \$25,000; Phenixville, Pa., \$20,000; Port Jervis, N. Y., \$30,000; Portland, Ind., \$15,000; Portsmouth, Ohio, \$50,000; Racine, Wis., \$50,000; Revere, Mass., \$20,000; Richmond, Va., \$100,000; Riverside, Cal., \$20,000; Rockford, Ill., \$60,000; St. Cloud, Minn., \$25,000; San José, Cal., \$50,000; San Juan, Porto Rico, \$100,000; Sault Ste. Marie, Mich., \$30,000; Schenectady, N. Y., \$50,000; Sharon, Pa., \$25,000; Sheboygan, Wis., \$25,000; Sioux Falls, S. Dak., \$25,000; South Omaha, Neb., \$60,000; South St. Joseph, Mo., \$25,000; Springfield, Ill., \$75,000; Stillwater, Minn., \$25,000; Superior, Wis., \$50,000; Tacoma, Wash., \$75,000; Valley City, N. Dak., \$15,000; Wabash, Ind., \$20,000; Walpole, Mass., \$15,000; Washington, Ind., \$20,000; Waukegan, Ill., \$25,000; Wheeling, W. Va., \$75,000; Yonkers, N. Y., \$50,000.

Carpenter, Gen. H. W., New York, gift to Columbia University to establish a chair of Chinese, \$100,000. On Dec. 29 it was announced that the Chinese Government would present the university with a compilation of Chinese literature, history, maps, illustrations, and official papers for the new department.

Carret, Mary B., Medford, Mass., bequest to Trinidad, Cuba, a public library.

Carroll, George W., Beaumont, Texas, gift to Baylor University, for a school of science, \$60,000.

Carroll, Mary Austin, Boston, gift to the University of Virginia, an annuity of \$11,000 during her life.

Cary, Sarah, Waltham, Mass., bequest to Rev. Timothy Brosnahan, St. Mary's Catholic Church, Waltham, \$20,000, for charity.

Catlin, Sophronia, Winsted, Conn., bequests to the American Home Missionary Society of New York and the American Missionary Society, each \$6,500; Connecticut Missionary Society, \$2,000; and Ecclesiastical Society of Winsted, \$1,000.

Chicago, University of, gifts from friends in addition to those noted elsewhere, \$375,000.

Clapp, Lucius, Randolph, Mass., gift to Boston University School of Medicine, a scholarship fund, \$5,000.

Cockran, William Bourke, Port Washington, Long Island, gift of a site for a new Catholic church.

Cockran, Mrs. William F., Yonkers, N. Y., gift to St. John's Protestant Episcopal Church, \$50,000.

Codman, Robert, Boston, bequests to the Parish of the Advent of Boston, \$7,000; Massachusetts General Hospital, Massachusetts Homeopathic Hospital, Carney Hospital, Boston Lying-in Hospital, House of Samaritan, St. Luke's Home for Convalescents, Roxbury, Holy Ghost Hospital for Incurables, Cambridge, and the Association for the Work of Mercy, each \$5,000; and Church of the Second Parish, Dorchester, \$1,500.

Colgate, Hannah, New York, gift to the Woman's Hospital for a permanent bed, \$5,000.

Colorado College, Colorado Springs, Col., gift from a friend, name withheld, for the Science Building, \$100,000.

Columbia University, gift from the alumni for Memorial Hall, \$101,500; from a friend for equipping an historical reading-room, \$5,000; for

books, \$10,000; for general purposes, \$5,000. See **CARPENTER**, Gen. H. W.

Converse, Elisha S., and wife, Malden, Mass., joint gift to the city for a public library, \$125,000.

Coolidge, Thomas Jefferson, gift to Jefferson Physical Laboratory of Harvard University, \$50,000.

Cooper, Edward, New York, gift to Cooper Union, to enlarge the laboratories, \$11,000.

Corbit, Joseph, New York, bequests to the Presbyterian Hospital, Presbyterian Board of Foreign Missions, Board of Home Missions, Board of Ministerial Relief, and the Five Points House of Industry, each \$2,000; and the Board of Freedmen of the Presbyterian Church, \$1,000.

Corrigan, Mary, Chicago, bequests to House of Good Shepherd, \$15,000; to the Little Sisters of the Poor, \$12,000; and to other church societies an aggregate of \$120,000.

Corwin, Mrs. Buel, Greenport, Long Island, bequest for lectures on Spiritualism, \$12,000.

Cousens, Horace, Newton, Mass., bequests to the town of Lyman, Me., to form a trust fund to increase educational advantages, \$20,000; to the city of Newton the residue, to be held in trust till its total is \$1,000,000, when its interest is to be paid to the poor of the city.

Cox, Dr. Truman H., Rome, N. Y., gift to the city for a home for children, a farm and \$1,000.

Crane, Angelica, New York, bequests to the Woman's Hospital of the State of New York, Home for Incurables, St. Luke's Hospital, and Fresh-Air fund, each \$5,000; and to the city of New York, for a drinking-fountain, the residue (\$52,204) of her estate.

Creighton, John A., Omaha, gift to Creighton University, a new building, cost, \$75,000.

Crosuz, Jacob, bequest to Syracuse University, \$10,000.

Cullman, Jacob F., New York, bequests to Mount Sinai Hospital, Hebrew Benevolent and Orphan Asylum of the City of New York, Montefiore Home for Chronic Invalids, and United Relief Work of the Society of Ethical Culture in the City of New York, each \$10,000; and the German Hospital and Dispensary, \$5,000.

Curtice, John W., Washington, D. C., bequest to the public library of Hinsdale, Mass., the income to purchase books, \$5,000.

Curtis, Charles B., New York, gift to the Metropolitan Museum of Art, \$10,000.

Cutting, R. Fulton, New York, gift to Cooper Union general endowment, \$5,000.

Daly, Dr. William H., Pittsburg, Pa., bequests his entire estate to specified charities, the bulk for the erection and support of the Athalia Daly Home for working girls and women.

Darling, Angeline E., Utica, N. Y., bequests, payable at the death of her husband, to the New Hackensack Cemetery Association, Board of Home Missions of the Presbyterian Church, Board of Foreign Missions of the Presbyterian Church, American Female Guardian Society and Home for the Friendless of New York, Young Women's Christian Association of Utica, Young Men's Christian Association of Utica, Young Women's Christian Association of the City of New York, Young Men's Christian Association of the City of New York, and the First Presbyterian Church of Utica, N. Y., each \$10,000.

Davis, Robert, Jersey City, N. J., gift to the city to enlarge Little Italy Park, 30 building lots.

Deering, William, Evanston, Ill., gift to the city for the Free Public Library fund, \$5,000.

Depew, Chauncey M., New York, gift to the village of Peekskill, a public park.

Dickinson, Leonard A., Hartford, Conn., be-

quests to St. Thomas's Church half of the residue of his estate, and to Hartford Hospital and Hartford Orphan Asylum, each one-fourth.

Dietrick, Mrs. Margaret, Plainfield, N. J., bequests to the trustees of the New York meeting of the Society of Friends, for a home for friendless members of the society, \$50,000, and to the Plainfield Society of Friends, \$500.

Dietz, Jacob Y., Philadelphia, bequests to the Board of Education of the Eastern Synod of the Reformed Church, \$4,000; Board of Home Missions of the Reformed Church, \$2,500; and Board of Home Missions of the General Synod of the Reformed Church, \$2,000.

Dodge, William E., New York, gift to Young Men's Christian Association, \$100,000.

Dougherty, Andrew, New York, bequests to Roman Catholic Orphan Asylum of New York City, and the Catholic University, Washington, D. C., each \$5,000.

Douglas, Ander E., New York, gift to the American Museum of Natural History, a collection of Indian relics and prehistoric anthropological specimens, containing about 23,000 specimens.

Doyle, Margaret, New York, bequests to the Society of the Helpers of the Holy Souls and the Mission of the Immaculate Virgin, the residue of her estate, estimated at \$15,000.

Drake, F. M., Centerville, Iowa, gift to the town, a library and site, \$25,000.

Drake, Josephine C., gift to Drake School of Chicago, a memorial hall to cost \$25,000.

Draper, Mrs. Henry, gift to Harvard University, \$10,000.

Dubois, Frederick N., New York, gift to the Young Men's Christian Association of Catskill, N. Y., \$25,000.

Dubois, J. E., Dubois, Pa., gift to Dunham Medical Institute, Chicago, \$1,000,000, half of which is to be used for the erection of a hospital.

Einstein, Henry L., gift to Mount Sinai Hospital, New York, a children's pavilion with 54 beds, cost \$125,000.

Eldred, F. S., Janesville, Wis., bequest to Janesville Public Library, \$10,000.

Elkin, Lewis, Philadelphia, bequest to found a new charity, \$2,000,000.

Elkinton, Thomas, Philadelphia, bequests to five hospitals in Philadelphia, each \$5,000; to Quaker schools and charitable organizations a total of more than \$100,000.

Ellsworth, E. S., Iowa Falls, Iowa, gift to the city, a library building, \$108,000.

Erickson, C. J. A., Boone, Iowa, gift to Augusta College, Rock Island, Ill., coal-lands valued at \$30,000.

Ethical Culture, Society for, New York, gifts from friends, for new building, \$108,000.

Everett, William, New York, bequests to religious bodies, aggregating \$11,000.

Farnum, Peter E., Port Jervis, N. Y., gift to town, a site for Carnegie library.

Fay, Henry G., Brooklyn, N. Y., bequests to the Brooklyn Young Men's Christian Association, Home for Aged Men, Brooklyn Church Society of the Methodist Episcopal Church, and the Brooklyn Methodist Episcopal Home, each \$10,000; the Brooklyn Methodist Episcopal Hospital, \$5,000; and the Summerfield Methodist Church, \$2,000.

Field, Marshall, Chicago, gift to the Home for Incurables, Chicago, ten lots adjoining the home, value, \$40,000; also to Conway, Mass., a public library building and 6,000 books, cost \$100,000, with an endowment fund of \$52,000.

Field, Osgood, New York, bequest to the Metropolitan Museum of Art, made available by

the death of his widow, Aug. 16, 1901, a collection of bric-a-brac, of inestimable value.

Floating Hospital, Boston, gift from a woman friend for endowment, \$5,000.

Flower, Anson R., New York, gift to the New York Homeopathic Medical College and Flower Hospital, \$23,500.

Flower, Roswell P., and **Keep-Schley, Mrs.**, joint gift of relatives of each, to city of Watertown, N. Y., a public park, estimated cost, \$500,000.

Fowler, Eliza, gift to Purdue College, Lafayette, Ind., \$60,000 for an assembly hall.

Freeman, Theodore Trent, East Orange, N. J., bequests to Orange Memorial Hospital, Orange House of the Good Shepherd, Orange Orphan Asylum, and St. Paul's Episcopal Church, East Orange, each \$5,000; and Christ Episcopal Church, East Orange, \$20,000.

Frisbie, Louise, New York, bequests to Wellesley College to endow a professorship in Political Economy, \$17,000, and to establish a free scholarship for Connecticut young women, \$5,000.

Galpin, S. A., California, gift to the Kensington (Conn.) Library Association for a building, \$10,000.

Gardner, George A., Boston, gift to Massachusetts Institute of Technology, for its electrical building, \$10,000.

Gassett, Mrs. Albion, Mich., gift to Albion College for a library building, \$10,000.

General Electric Company, Schenectady, N. Y., gift to the city to purchase site for Carnegie library, \$15,000.

Gibb, John, Brooklyn, N. Y., gift to Adelphi College Endowment fund, \$5,000.

Gibson, William, New York, bequests to Bedford Street Methodist Episcopal Church and Sunday-school, Church Extension fund, Missionary Society of the Methodist Episcopal Church, and Old Ladies' Home of the Methodist Episcopal Church, each \$1,000.

Gilchrist, John, Boston, bequests to the General Assembly of the Presbyterian Church, \$10,000; to other Presbyterian bodies a total of \$3,000.

Giteau, Frederick W., Irvington, N. Y., gift to the town for a public library, \$10,000.

Gladding, Thomas S., New York, gift for a building for the Young Men's Christian Association at Fort Hancock, N. J., \$10,000.

Glastonbury, Conn., gift to the town by the Glastonbury Free Academy Corporation, its building and appurtenances for a high school, together with the income of \$20,000.

Goddard, Matilda, Boston, bequests to the Gyne Home for Destitute Children, \$20,000; School for Idiotic and Feeble-minded Youth, Boston University, and Institute of Technology, each \$5,000; Home for Aged Women, Boston Overseers of the Poor, Home for Aged Colored Women, New England Hospital for Women and Children, Homeopathic Hospital, Woman's Educational and Industrial Union, Massachusetts Suffrage Society, and the Kindergarten for the Blind, Roxbury, each \$2,000; the Free Religious Association and the Children's Mission, each \$2,000; and the Needlewomen's Friend Society, the Provident Association, the Industrial Society, Society for the Prevention of Cruelty to Animals, and the Salvation Army, each \$100.

Goff, Lyman B., Pawtucket, R. I., gift to the Pawtucket Boys' Club, a new clubhouse.

Goldenberg, Joel, New York city, bequests to fourteen charitable institutions, each \$1,000 to \$5,000.

Goodman, George E., Napa, Cal., gift to the town for a library building, \$20,000.

Goodrich, George T., Akron, Ohio, gift to the city for a library and club for boys and men, \$50,000.

Gould, Helen M., New York, gifts to the naval branch of the Young Men's Christian Association for a building near Brooklyn Navy-Yard, \$360,000, supplementing a gift of \$50,000 in 1900; to the New York University for scholarships for the graduates of Irvington (N. Y.) High School and Tarrytown (N. Y.) High School, \$12,000; to Vassar College for scholarships for graduates of the Washington Irving High School, Irvington, N. Y., and the Tarrytown (N. Y.) High School, each \$10,000; for Young Men's Christian Association, Fort Monroe, \$10,000; to Vassar College, a scholarship, in memory of her mother, \$10,000; to Mount Holyoke College for scholarship, \$8,000; and to the Young Men's Christian Association, Peru, Ind., \$2,500.

Grace Episcopal Church, Chicago, gift from two friends, \$25,000.

Grafton, Mrs. Elizabeth R., New York, bequests to the Sheltering Arms and St. Luke's Home for Indigent Christian Women of the Protestant Episcopal Church, each \$10,000.

Grant, William T., Louisville, Ky., bequest to Presbyterian Theological Seminary, Louisville, Ky., \$200,000.

Gray, John, Brooklyn, N. Y., bequest to Seney Hospital, \$5,000, and to Summerfield Methodist Episcopal Church, \$1,000.

Greenspan, Mrs. Allan Sells, Topeka, Kan., bequest to Topeka Orphans' Home, \$200,000.

Greenwich (Conn.) Public Library, gift by citizens of New York for endowment, \$25,000.

Griffin, George, Sheldon, Conn., bequest to the city for a hospital, \$25,000.

Guernsey, Mrs. William B., Norwich, N. Y., bequest to the town for a library, her residence.

Guggenheim, Daniel, New York, gift to the Jewish Theological Seminary, \$50,000.

Guggenheim, Isaac, New York, gift to the Building fund of the Educational Alliance, \$5,000.

Guggenheim, Meyer, New York, gift to the Jewish Hospital Association of Philadelphia for new building, \$60,000; also, with sons, gift to Mount Sinai Hospital, New York, \$200,000.

Hackley, Charles H., Muskegon, Mich., gift to the city, a statue of President McKinley; also gift to the city for addition to Hackley Public Library, \$25,000.

Hadley, Addison, Richmond, Ind.; bequest to the city, 277 acres for a site for an industrial home, with a large endowment.

Hale, Charles Reuben, Cairo, Ill., bequest to Western Theological Seminary as trustee for the Diocese of Cairo, \$10,000.

Hall, Sidney, Hartford, Conn., bequest to Advent Christian Publication Society, \$10,000.

Hammond, Edward Augustus, New York, bequests to the Society for the Prevention of Cruelty to Animals, \$30,000; and Monmouth Memorial Hospital, Long Branch, N. J., \$5,000.

Hampton, Dr. John, Philadelphia, gift to Plymouth, N. C., an academy to cost \$5,000.

Hanna, H. M., Cleveland, Ohio, gift to Western Reserve University for a fellowship in the Medical School, \$12,000.

Hanna, Marcus A., Cleveland, Ohio, gift to Kenyon College, for a dormitory, \$50,000; to the Salvation Army, \$1,000.

Hannan, P. C., Mobile, Ala., gift to the city, a home for aged and indigent whites.

Harkness, Charles, New York, gift to Yale University, \$55,000.

Harkness, Edward, New York, gift to Yale University, \$55,000.

Hartford Theological Seminary, Hartford, Conn., gifts from friends for a Lamson memorial fund, \$50,000.

Hartley, Edward, Mount Vernon, N. Y., gift to the town for a public park, five acres.

Harvard Club, New York, gift to Harvard University for a boat-house, \$25,000.

Harvard University, gift from a friend for a new building, \$100,000.

Hayden, Charles H., Boston, bequests to the Museum of Fine Arts, \$100,000; Massachusetts General Hospital, Children's Hospital, and Massachusetts Charitable Eye and Ear Infirmary, each \$50,000; Massachusetts Society for the Prevention of Cruelty to Animals, New England Hospital for Women and Children, Home for Aged Women, Children's Mission, Perkins Institute and Massachusetts School for the Blind, Boston Home for Incurables, and Massachusetts Society for the Prevention of Cruelty to Children, the residue of his estate, making a total of nearly \$700,000.

Heald, Daniel Addison, Orange, N. J., estate of, gift to Stickler Memorial Library, 1,150 volumes valued at \$7,000.

Healy, Mrs. Helen R., Claremont, N. H., bequest to the Stevens High School there, the residue of her estate, expected to yield from \$25,000 to \$40,000.

Herget, George, Pekin, Ill., gift to the public library, a site for a building.

Herrick, M. T., Wellington, Ohio, gift to the town for a library building, \$15,000.

Hewitt, Abram S., New York, gift to Cooper Union to enlarge the laboratories, \$11,000.

Higginson, Mrs. Henry L. See AGASSIZ, ALEXANDER.

Higginson, Hiram, gift to Harvard University, a building for the Harvard Union.

Hill, James J., New York, gift to Yale University, \$100,000.

Hitchcock, David W., New York, bequests to the Children's Hospital, West End Nursery and Infant's Hospital, Fatherless and Widow's Society, Industrial School for Crippled and Deformed Children, each \$5,000.

Hoag, Daniel, New York, bequests, available on the death of his widow, to the Home for Old Men and Aged Couples of the Protestant Episcopal Church, Protestant Episcopal City Mission Society, St. Luke's Hospital, Domestic and Foreign Missionary Society of the Protestant Episcopal Church, trustees of the Aged and Infirm Clergy fund of the Protestant Episcopal Church of the Diocese of New York and St. Thomas's Church, each \$3,000.

Hobart, Mrs. Garret A., Paterson, N. J., gift to Rutgers College, \$5,000.

Hoffman, Rev. Eugene A., gift to the Protestant Episcopal Diocese of Alabama, a large plot of land and the residence on it for the rector of Christ Church, Bridgeport.

Hollis, William H., Chelsea, Mass., bequests to Tufts College Theological School, \$2,000; the Old Ladies' Home, Chelsea, and Bethany Union for Young Women, Boston, each \$1,500; and the Sunday-school of the First Universalist Church, \$500.

Home for Incurables, New York, gift from a friend, \$30,000.

Hopkins, Robert E., Tarrytown, N. Y., bequests to the First Presbyterian Church, Titusville, Pa., \$10,000; and the Congregational Church, Pompey Hill, the Academy at Pompey Hill, and Onondaga County, each \$3,000.

How, Mrs. Eliza A., St. Louis, Mo., gift to Washington University, St. Louis, Mo., for a memorial to her father, the late James B. Eads, \$100,000.

Howe, James R., Brooklyn, N. Y., gift to the city, an equestrian statue of George Washington.

Hoyt, Louis Thurston, New York, bequests to the Orphans' Home and Asylum of the Protestant Episcopal Church of New York, \$10,000; one-eighth of the residue of his estate to be divided equally between St. Luke's Hospital, the Orphans' Home and Asylum, the Society for the Relief of the Destitute Blind, and the New York Society for the Prevention of Cruelty to Children.

Hubbard, Walter, Meriden, Conn., gift to the city for a public park.

Huey, Samuel B., Philadelphia, bequest to the Board of Home Missions of the Presbyterian Church, \$10,000.

Humphrey, Dr., New York, gift to All Angels' Episcopal Church, a chapel, cost \$80,000.

Huntington, Charles P., New York, bequests to the Children's Aid Society, Five Points House of Industry, New York Society for the Relief of the Ruptured and Crippled, American Female Guardian Society, Home for the Friendless, Roosevelt Hospital, and the city of Norwich, Conn., for a public library, each \$20,000, and the Cathedral of St. John the Divine, the residue of his estate, estimated at \$95,000.

Huntington, Mrs. Collis P., New York, gift to the endowment fund of the New York School of Applied Design for Women, \$10,000; also to the Tuskegee Normal and Industrial Institute, \$10,000.

Hutchinson, A. C., gift to the New Orleans Charity Hospital for a nurses' home, \$50,000.

Huyler, John S., New York, gift to Syracuse University, \$25,000.

Hyde, Charles, Plainfield, N. J., bequests to various institutions, \$100,000.

Iselin, Adrian, New York, gifts for a hospital at Scarsdale, N. Y., \$100,000; a hospital for convalescents at the same place, \$50,000.

Ismay, Joseph F., New York, bequest to Corpus Christi Monastery, New York, \$5,000.

Ives, Mrs. Hoadley B., New Haven, Conn., gift to the Young Men's Christian Association of that city for a library, \$10,000.

Jackson, Huntington W., Chicago, bequests to Chicago Art Institute, Illinois Commandery of the Loyal Legion, American Sunday-School Union, Field Columbian Museum, and nineteen other institutions and organizations, each \$1,000.

Jackson, Philip N., Newark, N. J., to the German Theological Seminary, Bloomfield, N. J., \$5,000.

Jellison, Charlotte A., Boston, bequests to Mount Vernon Church and Massachusetts Society, each \$2,500; Women's Board of Missions, American Home Missionary Society, and Boston City Mission, each \$2,000; Homeopathic Medical Dispensary and Boston Young Women's Christian Association, each \$1,000; and to the Massachusetts Society the residue of her estate.

Jennings, —, New York, gift to Yale University, \$60,000.

Jesup, Morris K., New York, gift to Tuskegee, (Ala.) Normal and Industrial Institute, \$5,000; also to Cooper Union for its reading-room, \$10,000.

Jillson, Esek A., Providence, R. I., bequests to Providence Home for Aged Women and Rhode Island Hospital, each \$4,000; and to Rhode Island Historical Society, \$2,000.

Johns Hopkins University, Baltimore, gifts from friends (up to Nov. 20), \$750,000 toward an aggregate of \$1,000,000 necessary to secure ground for a new site for the University. See WYMAN, WILLIAM.

Johnson, William M., Hackensack, N. J., completed gift to the village, ground and public library building, cost \$60,000.

Jones, Frank S., Brooklyn, N. Y., gift to Bedford Branch of the Young Men's Christian Association of Brooklyn, \$20,000; also gift to Wesleyan University, \$25,000.

Jones, Solomon, Jamestown, N. Y., bequests to the Jamestown Young Men's Christian Association, \$5,000; Jamestown Hospital, \$5,000; Randolph Children's Home, \$3,000; Swedish Orphanage, \$1,000; and to the First Presbyterian Church of Jamestown, \$1,000.

Keasbey and Mattison Company, Philadelphia, gift to the University of Pennsylvania for its medical laboratory, \$25,000.

Keene, James R., New York, gifts to Hebrew Sheltering Arms Society, Orphan Asylum Society of New York, Roman Catholic Orphan Asylum, and St. John's Guild, each \$2,000; Five Points Mission, \$1,500; and Tribune Fresh-Air fund and Herald Ice fund, each \$1,000.

Keep-Schley, Mrs. See FLOWER, ROSWELL P.

Kendall, Edward Hale, New York, bequests, available on the death of his widow, to the Free Church Home for Incurables, New York, \$5,000; to Harvard University, one-ninth of the residue of his estate.

Kennedy, George N., Syracuse, N. Y., bequests to Syracuse University, \$40,000, and several local charitable institutions, each \$5,000.

Kent, Albert Emmett, Chicago, Ill., bequest to Yale University for the Kent Chemical Laboratory, \$50,000.

Keyser, William, Baltimore, Md., gift to Johns Hopkins University, \$200,000 and 60 acres of land.

Kibbe, Mrs. Horace, Springfield, Mass., bequests to Springfield Hospital, \$3,000; American College and Educational Society, New West Education Commission, American Congregational Union, Congregational Sunday-School and Publishing Society, American Seamen's Friend Society, and Ministerial Aid Society, each \$2,000; Springfield Home for Aged Women, Springfield Home for Friendless Women and Children, Olivet Congregational Society, Congregational Society of Tolland, Conn., Washburn College of Topeka, Kansas, Mount Holyoke College, and Whitman College, Walla Walla, Wash., each \$1,000.

Kimball, R. J., Randolph, Vt., gift to the town, a library, cost \$10,000.

King's Daughters' Settlement, New York, gift from friend, name withheld, \$5,000.

King, Mary Rhinelander, New York, gift to Grace Church, Jamaica, Long Island, \$6,000.

Knapp, Herman, New York, gift to the New York Ophthalmic and Aural Institute, the buildings occupied by the institute.

Kohl, John A., Brookline, Mass., bequest to St. Andrew's Protestant Episcopal Church, Lambertville, N. J., \$5,000.

Kost, Dr. John, Adrian, Mich., gift to the College of Medicine and Surgery, Chicago, Ill., a zoological museum, valued at \$150,000.

Lampson, William, Leroy, N. Y. (died, 1897), bequest to Yale University; contested; amount awarded (April, 1901) by decree of court to the university, \$500,000.

Lankenau, John D., Philadelphia, bequests to the German Hospital of Philadelphia and Mary J. Drexel Home for Aged Patients of the Hospital, in equal parts, \$1,500,000, and the Drexel Institute, paintings valued at \$150,000.

Lawson, Thomas W., Boston, gifts to the West End Day Nursery and New England Home for Crippled Children, each \$5,000.

League, Mrs. J. C., Galveston, Texas, gift to Ball High School, \$5,000.

Lebaudy, Robert, Paris, gift to the French Benevolent Association of New York city, for a hospital, \$10,000.

Lee, Joseph, gift to Harvard University for Henry Lee Fellowship fund, \$25,000.

Leeds, William B., New York, gift to the Margaret Smith Home for Aged Women of Richmond, Ind., \$25,000.

Lehman, Meyer, family of, gift to Mount Sinai Hospital, New York, for dispensary building, \$75,000.

Leonard, Elizabeth G., New Bedford, Mass., bequests to religious and charitable institutions, an aggregate of \$16,500.

Lewisohn, Adolph, New York, gift to Mount Sinai Hospital for a pathological building, \$50,000, and a pledge to equip and maintain this department.

Lewisohn, Leonard, New York, gift to the Jewish Theological Seminary, \$50,000.

Lewiston, Me., gift from a friend for a public library, \$30,000.

Littauer, —, Gloversville, N. Y., gift of property valued at \$20,000, as a site for a State hospital for incipient pulmonary tuberculosis.

Little, Stafford, gift to Princeton University to enlarge Little Hall, \$100,000.

Littlejohn, Bishop Abram N., Garden City, Long Island, bequests to various church societies, the ultimate division of his estate, valued at \$100,000. See OBITUARIES, AMERICAN.

Loftus, Rev. Martin J., Bay Ridge, Long Island, bequests to St. John's Roman Catholic Seminary, \$5,000; Little Sisters of the Poor, \$3,000; Roman Catholic Asylum, \$1,000; and St. Vincent de Paul Society, \$500.

Long, Henry C., Indianapolis, Ind., bequests to the Board of Domestic Missions of the Presbyterian Church, \$15,000; to four Indianapolis charitable societies, \$10,000.

Long, John Davis, Washington, D. C., gift to the town of Buckfield, Me., the Zadoc Long Free Library, cost \$6,000.

McAdam, John, New York, gift to Lexington Avenue Baptist Church, a parsonage.

McCahan, W. J., Philadelphia, gift to Princeton Theological Seminary, \$5,000.

McCormick, Mrs. Nettie, Chicago, gift to McCormick Theological Seminary for a Hebrew scholarship, \$30,000.

McCormick, Stanley, Chicago, gift to McCormick Theological Seminary for the library, \$15,000.

McCulloch, George F., Muncie, Ind., gift to the city for a public park, 87 acres and \$2,500 for its improvement.

McKinley, William, Canton, Ohio, gift to the city toward a new hotel, \$5,000.

McMillin, Emerson, New York, gift to the Columbus (Ohio) Art School, a site in Columbus, valued at \$30,000, and a sum not to exceed \$100,000 for an art museum, an equal amount to be raised by the citizens.

McPherson, Edla J., Jersey City, N. J., bequests to a trust fund for Christ Hospital, Jersey City, \$50,000; Emergency Hospital, Washington, D. C., \$10,000; Yale University, the balance, estimated at more than \$400,000.

Macy, Charles Alexander, 2d, New York, bequest to Delta Chapter of the Delta Phi Fraternity, bonds for the erection of a chapter-house.

Macy, Mr. and Mrs. V. Everett, New York, gift to the Teachers College, a building for the Horace Mann School, \$500,000.

Magee, Christopher L., Pittsburg, Pa., be-

quest for the establishment of a hospital, \$4,500-000.

Marburg, Theodore, Baltimore, Md., gift to Johns Hopkins University, a collection of rare and beautiful antiques from Cyprus, 90 pieces.

Marquette, Mich., gift from a friend for a public library building, \$5,000.

Marquis, Mrs. Vaughn, Ashland, Wis., bequests to the Presbyterian Board of Missions of Illinois, Board of Home Missions in Wisconsin, Presbyterian Board of Aid to Freedmen, and the Presbyterian Board of Aid to Colleges, the bulk of her estate, estimated at \$500,000; to the Presbyterian Church of Ashland, \$10,000; and to the city, Vaughn Library.

Mascho-Williams, Mrs. Lizzie A., New York, bequests to Free Home for Incurable Cancer, \$10,000; and Little Sisters of the Poor, \$5,000.

Mason, Mrs. Theodorus B. M., gift to the Naval Academy, Annapolis, a memorial window for the chapel, cost, \$20,000. (See Annual Cyclopædia for 1899, page 622.)

Massachusetts Bible Society, Boston, gift to the American Bible Society of New York, \$10,000.

Meadville (Pa.) Theological School, gift from a resident of New York city for a Robert Collyer fund, \$50,000.

Mears, Dr. J. Ewing, Philadelphia, gift to the Medical Society of Marion County, Indiana, property in Indianapolis, Ind., valued at \$25,000 for a home for the society.

Meeker, Maria Sprague, Brooklyn, N. Y., bequest to the Brooklyn Home for Consumptives, the residue of her estate, estimated at \$12,000.

Mercer University, Macon, Ga., friend of, gifts aggregating \$40,000, thus securing gift from John D. Rockefeller of \$15,000.

Mergler, Dr. Marie J., Los Angeles, Cal., bequests to University of Chicago and Women's Hospital of Chicago, each \$3,000.

Merritt, Elizabeth, New York, bequests to American Baptist Missionary Union of Boston, Women's Foreign Missionary Society of the Methodist Church, each \$2,000; New York Female Junior Baptist Society, \$1,000; and Children's Aid Society, the residue of her estate.

Miller, T. H., Crete, Neb., gift to the city for a public library, \$10,000.

Milliken, James, Decatur, Ill., gift to Cumberland Presbyterian Church of Indiana, \$10,000; also for an industrial institute \$500,000, with pledge of \$65,000 annually.

Miln, Susan, New York, bequests to the New York Homeopathic Medical College and Hospital, to endow four beds, \$2,000; Children's Aid Society, a house and lot in New York city; to six medical and religious societies the residue of her estate.

Moffat, Richard, Boston, bequests to Methodist Women's Home Missionary Society, Methodist Women's Foreign Missionary Society, and Freedmen's Aid and Southern Educational Society, each \$1,500; and Methodist Episcopal Church Extension Board, \$500.

Mohr, Dr. Charles, State Botanist of Alabama, bequest to the National Museum in Washington, his herbarium, representing the entire flora of the Southern States and the personal labor of sixty-five years.

Moore, William H., and **James H.**, Chicago, joint gift to the village of Greene, N. Y., for a public library, \$30,000.

Monmouth Memorial Hospital, Long Branch, N. J., gifts from friends for new wing, \$11,135, thus securing a county appropriation of \$10,000.

Moran, Edward, New York, bequest to the

New York Public Library, a set of 13 pictures painted by him, provided they can not be sold by his executors for \$40,000.

Morgan, J. Pierpont, New York, gifts to Harvard University for three buildings: one for a medical school, \$1,000,000; to the American Museum of Natural History, the Bement Collection of Minerals valued at \$200,000; to the Young Men's Christian Association, New York, \$100,000; to the Museum for the Arts of Decoration of Cooper Union, the Bodia Collection of Barcelona, the Rivas Collection of Madrid and the Baron Collection of Paris, valued at from \$50,000 to \$100,000; to the Loomis Sanitarium for Consumptives, Liberty, N. Y., an electric-light plant costing \$40,000; and for a building for scientific societies in New York, \$25,000. See also MORTON, LEVI P.

Morton, Henry, President of Stevens Institute of Technology, Hoboken, N. J., gift to the Carnegie Laboratory of the Institute, \$50,000, making his total gift to the institute \$140,000.

Morton, Levi P., and **Morgan, J. Pierpont**, New York, joint gift to the United States Government, a collection of Lafayette souvenirs purchased in Paris, valued at \$40,000.

Newberry, Mrs. John S., Detroit, Mich., gift to Yale University for an organ, \$25,000.

Newcomb, Josephine Louise, New York, bequest to Tulane University, the residue of her estate, estimated at \$1,500,000. She had previously given the university about \$1,000,000.

New York City, gift from a man, name withheld, the Manhattan Maternity Hospital and Dispensary, including site, building, and endowment.

New York Historical Society, gifts from friends for a new building, \$50,000.

New York State Woman's Hospital, gifts from friends, \$10,000 for general uses, \$10,000 for new organ, \$32,000 for the building.

New York University, gifts from friends to form an Ottendorfer memorial fellowship, \$20,000.

Northwestern University, Chicago, Ill., gift from a friend, \$15,000.

Northwestern University Guild, Chicago, gift to the Northwestern University, the art collection of the guild, valued at \$20,000.

Nottingham, William, Syracuse, N. Y., gift to Syracuse University, \$12,500.

Oberlin College, gift from "a friend in New England" for the endowment fund, \$50,000.

Olmsted, John M., and **Miss Sarah Olmsted**, New York, joint gift to the Five Points Missions, a summer home at Cornwall-on-the-Hudson.

Page, Edward B., New York, gift to Sheffield Scientific School for a scholarship, \$6,000.

Paige, Ann M., Cambridge, Mass., bequests to Tufts College, \$2,000; to the town of Hardwick, Mass., the residue of her estate for the Paige Library.

Palmer, Francis A., New York, gift to Palmer College, Le Grand, Iowa, \$30,000.

Palmer, William J., and **Peabody, George Foster**, Salt Lake, Utah, joint gifts to miners injured or relatives of miners killed at the Scofield Mine, \$50,000 in shares of \$250 each; to St. Mark's Episcopal and Holy Cross Catholic Hospital in Salt Lake, each \$10,000; to establish emergency hospitals at four camps of the Pleasant Valley Coal Company, \$20,000.

Parr, Daniel G., Louisville, Ky., gift to the city, a home for aged and infirm ex-Confederate soldiers.

Parsons, John E., New York, gift to the Cooper Union endowment fund, \$5,000.

Patterson, James K., president of Kentucky State College, Lexington, Ky., gift to the college for a library, \$50,000.

Peabody, George Foster, New York, gifts for a Young Men's Christian Association building, \$35,000, and a Young Men's Christian Association building for negroes, \$20,000, in Columbus, Ga., provided the citizens maintain them. See **PALMER, WILLIAM J.**

Pearsons, Daniel Kimball, Chicago, gifts to Beloit College, Beloit, Wis., \$200,000, an additional \$150,000 to be raised by the trustees; to Illinois College, Jacksonville, Ill., \$50,000, the trustees to raise an additional \$150,000; to Northwestern University, Chapin Hall, cost \$30,000; Colorado College, \$50,000; Fargo College, Fargo, N. Dak., \$50,000; Whitman College, Walla Walla, \$50,000; McKendree College, Lebanon, Ill., \$50,000; Bethany College, Lindsborg, Kan., \$25,000; Fairmount College, Wichita, Kan., \$25,000; and Drury College, Springfield, Mo., \$25,000.

Perkins, George T., Akron, Ohio, gift to the city, a public library, cost, \$50,000.

Phillips, Miss Emily, Philadelphia, bequest to the Grand Lodge of Masons of Pennsylvania, about \$200,000.

Phillips Exeter Academy, Andover, Mass., gift from a friend, an archeological collection, valued at \$450,000, and building to contain it.

Phillips, George W., Homer, N. Y., gift to the village, funds for a library to cost \$50,000.

Pierce, Thomas S., Middleboro, Mass., bequest to the town for charitable purposes, \$600,000.

Pierson, Mrs. William, Orange, N. J., gift to the physicians of Orange to form a medical library, 8,000 volumes.

Plimpton, George A., New York, gift to Wellesley College, a library of Italian literature.

Post-Graduate Medical School and Hospital, New York, gift from a friend, to support three beds, \$15,000.

Presbyterian Hospital, New York, gift from a friend, nurses' home, cost, \$300,000.

Princeton University, gifts from friends for new gymnasium, \$175,000; for university library, \$50,000; for a fellowship in rhetoric, \$10,000; also the property of the late Prof. Guyot.

Proctor, H. L., Boston, gift to Mount Hermon School, East Northfield, Mass., \$5,000.

Raley, Robert and Martha, Bangor, Iowa, joint gift to Penn College, Oskaloosa, a 240-acre farm, valued at \$15,000.

Ranney, Harriet B., New York, bequest to St. Luke's Hospital, to establish a bed for adults, \$6,000, and one for children, \$3,000.

Reasoner, Mrs. Andrew, East Orange, N. J., gift to the Munn Avenue Presbyterian Church for a new Sunday-school building, \$25,000.

Reid, Peter, Passaic, N. J., gift to the city, a public library, cost \$50,000.

Rew, Irwin, Chicago, gift to Sheffield Scientific School, \$10,000.

Reynal, Mrs. Nathalie, White Plains, N. Y., bequests to the Foundling Hospital of the Sisters of Charity of New York, \$5,000; Association for Befriending Children and Young Girls, New York, and St. Joseph's Seminary, Yonkers, each \$2,000; and College of St. Francis Xavier, New York, Church of St. Agnes, New York, and Church of St. John's, White Plains, each \$1,000.

Rhineland, Serena, New York, gift to the Church of the Ascension, \$50,000.

Rice, Simon, Scranton, Pa., bequest to Hebrew Union College, Cincinnati, Ohio, \$300,000.

Richardson, Susan Cabot, Milton, Mass., bequest to Radcliffe College, the reversion of her estate, \$200,000.

Roberts, Roswell A., Yonkers, N. Y., bequests to religious, charitable, and educational institutions in Yonkers, New York, and Georgia, with

the reversion of one-half his residuary estate to the Homeopathic and Maternity Hospital, Yonkers, in all about \$500,000.

Rockefeller, John D., New York, gifts to Brown University, \$250,000, duplicating his gift of 1900; Cornell University, \$250,000; Bryn Mawr College, \$230,000 toward a library building, dormitory, and lighting plant; Barnard College, New York, \$200,000; Oberlin (Ohio) College, \$200,000; for the foundation in New York city of the Rockefeller Institute for Medical Research, \$200,000; Vassar College, for a new dormitory, \$110,000; Young Men's Christian Association, of New York, \$100,000; Des Moines (Iowa) College, \$25,000; Vermont Academy, Bennington, Vt., \$15,000; Mercer College, Macon, Ga., \$15,000; Hyde Park Baptist Church, Chicago, \$15,000; Carson and Newman College, Mossy Creek, Tenn., \$15,000; American Church fund toward the erection of a church in Berlin, Germany, \$9,500; Wayland Academy, Beaver Dam, Wis., \$7,000; Huron Street Hospital, Cleveland, Ohio, \$5,000; Wellesley College, for a dormitory and heating plant, \$150,000; and the University of Chicago, \$1,250,000. The educational gifts were conditional on specified amounts being otherwise raised during 1901, which in nearly all cases was done.

Rogers, Henry H., gift to the Millicent Library, Fairhaven, Mass., the water-works plant of the town.

Rogers, Jacob S., Paterson, N. J., bequest to the Metropolitan Museum of Art, New York, about \$5,500,000. Will contested and sustained.

Rolph, Harriet W., Huntington, Long Island, bequests to Presbyterian societies, \$13,000.

Rothwell, Richard P., New York, bequest to the Sophia fund for the care of destitute baby girls, \$40,000.

Russell, William G., Boston, gift from heirs of, to the city of Plymouth, Mass., for a new library building, \$20,000.

Ryan, Thomas F., New York, gift to the city of Richmond, Va., funds for a Roman Catholic cathedral, to cost \$250,000.

Ryerson, Martin A., Chicago, Ill., gift to Grand Rapids, Mich., for a public library, \$150,000.

Salisbury, Edward Eldridge, New Haven, Conn., bequests to Yale University, available on the death of his widow, for the Art School, \$45,000; the university library, \$40,000; and for purchase of books, \$40,000.

Sargent, Winthrop, Fishkill Landing, N. Y., gift to the city for a free hospital, \$20,000.

Sayre, John, Missouri, bequest to Princeton University, \$15,000.

Schermerhorn, F. Augustus, Lenox, Mass., gift to Pittsburg House of Mercy Hospital, land valued at \$15,000.

Schiff, Jacob H., New York, gift to the Hebrew Sheltering Guardian Society, \$10,000; to Harvard University for a Semitic building, \$50,000; to the Building fund of the Educational Alliance, \$5,000; and to the Jewish Theological Seminary, \$200,000.

Schwab, Charles M., Pittsburg, Pa., President of the United States Steel Corporation, gifts to Mount Aloysius Academy, Cresson, Pa., a new building, cost \$30,000; and to Weatherly, Pa., for a trade-school, \$25,000; also a church in memory of his mother, erected at Loretto, Pa., cost, \$150,000.

Seamans, Clarence W., New York, gift to Syracuse University, \$25,000.

Sebor, Louisa, Middletown, Conn., bequest to Holy Trinity Church of that city, from \$150,000 to \$200,000.

Seneca, Stephen J., and wife, Havre de Grace, Md., gift, funds for a Methodist Episcopal church edifice, to cost \$35,000.

Severance, Lewis H., New York, gift to Oberlin College for endowment of chair of Chemistry, \$40,000.

Shannon, Mary, Newton, Mass., bequests to various institutions in Newton, \$46,000; other institutions in Massachusetts, \$32,000; Wellesley College, \$15,000; Hampton Normal and Agricultural Institute, \$10,000; Tuskegee Institute, Kittrell (N. C.) Normal School for Negroes, and Malhalian Seminary for Poor Whites, Kinsey, Ala., each \$5,000; Bar Harbor (Me.) Free Library, \$1,000, and an acre of land for a park, and the American Purity Alliance of New York, \$2,000.

Shattuck, Elizabeth P., gift to Harvard University for the Henry Lee Fellowship fund, \$25,000.

Sheldon, George R., and brothers and sisters, gift to St. Paul's School, Concord, N. H., a library building.

Sibley, Hiram W., Rochester, N. Y., gift to Sibley College of Mechanical Engineering of Cornell University, for a new building, \$85,000.

Silliman, Benjamin D., Brooklyn, bequests to Yale University for a fellowship, \$10,000, and \$100,000 to revert to Yale on the death of a niece and nephew; to Columbia University for a fellowship, \$10,000.

Silliman, Dr. Horace B., Cohoes, N. Y., gift to Union College, Schenectady, N. Y., a new building for the Young Men's Christian Association, cost \$50,000.

Simmons, E. Z., Kenoska, Wis., gift to the city for an emergency hospital, \$30,000.

Simpkins, C. R., gift to Harvard University for a room for instruction in mining and engineering, \$10,000.

Simpkins, John, gift to Harvard University, \$20,000.

Slimmer, Abram, Waverly, Iowa, gift for a dispensary for the Lying-in Hospital, Chicago, \$5,000.

Smith, Charles A., Minneapolis, Minn., gift to the Swedish Lutheran College, Lindsborg, Kan., 25,000,000 feet of standing pine, valued at \$25,000.

Smith College, gift from a friend for the endowment fund and for a new building, each \$50,000.

Smith, Mrs. F. M., gift of funds to build in East Oakland, Cal., ten cottages, each to house ten girls in charge of a matron, who will give them training in household management.

Smith, Mrs. Harriet Bacon, New York, bequests to the Eye and Ear Hospital and the Home for the Aged of the Church Charity Foundation, each \$10,000; Children's Aid Society, Brooklyn, \$4,000; and the Diet Dispensary, Brooklyn, \$3,000.

Smith, Herbert K., Melissa E., and Ernest W., New York, joint gift to Yale University, \$30,000.

Smith, John Jewett, New York, bequests to the Church of Zion and St. Timothy, \$5,000; and Grace Episcopal Church, Elizabeth, Protestant Episcopal Mission Society for Seamen, Protestant Domestic and Foreign Missionary Society in the United States, and New York Protestant Episcopal City Mission Society, each \$1,000.

Smith, Lyman Cornelius, Syracuse, N. Y., gift to Syracuse University, a building for its department of mechanical engineering.

Speyer, James, and wife, New York, joint gift to the Teachers College for an experimental school, \$100,000.

Stanford, Mrs. Jane L., San Francisco, Cal., gift to the Leland Stanford, Jr., University, stocks valued at \$18,000,000, and 1,000,000 acres of real

estate worth \$12,000,000; also her home in San Francisco, worth \$400,000, the latter to be converted into a museum and art gallery.

Starr, Dr. M. Allen, New York, gift to Middlebury College for books, \$5,000.

Stearns, Mary F., Medford, Mass., bequest to the Massachusetts Homeopathic Hospital, \$10,000; to Tufts College, Medford, the reversion of \$50,000; to Tuskegee Institute, Hampton Normal and Agricultural School, and Berea College, equal shares of the residue of her estate.

Steenland, Halle, Madison, Wis., gift to St. Olaf College, Northfield, Minn., a library building.

Stephenson, Isaac, Marinette, Wis., gift to the city for a library building, provided the city maintains it, \$30,000.

Stern, Benjamin, New York, gift to Mount Sinai Hospital, to equip the main operating room, \$20,000.

Stillman, Benjamin D., bequest to Columbia University, to establish a fellowship in letters or science, \$10,000.

Stout, F. D., Dubuque, Iowa, gift to the city, a site for a library building, \$17,000.

Strong, Charles A., New Brunswick, N. J., bequests to Wells Memorial Hospital and the Young Men's Christian Association in New Brunswick, N. J., each \$10,000; Rutgers College, \$115,000; and the Children's Industrial Home in New Brunswick, \$5,000.

Synnott, Rev. John, Taftsville, Conn., bequest to St. Francis Orphan Asylum, New Haven, \$10,000.

Syracuse University, gift from a friend, \$10,000.

Talbot, Mrs. Calista, Buffalo, N. Y., bequests to fourteen charitable and benevolent institutions of Buffalo, an aggregate of \$39,000.

Taylor, Emma Flower, Watertown, N. Y., gift to the city, a public library building and site, \$200,000.

Taylor, James R., Brooklyn, N. Y., bequests to the Industrial School Association and Home for Destitute Children, Home for Temporary Aid of Friendless Women, Children's Aid Society, American McAll Association, Young Men's Christian Home for Consumptives, Young Women's Christian Association, City Mission and Tract Society, and City Bible Society, each \$5,000; and Women's Work Exchange, \$2,500, all in Brooklyn.

Teachers College, New York, gift from a man and wife, for a building to be used outside of school hours, \$100,000.

Thayer, Alexander Wheelock, bequest to Harvard University, \$7,750.

Thayer, Ruth Simpkins, gift to Harvard University for a room for instruction in mining and engineering, \$5,000.

Thomas, George C., New York, gift to the city of San Juan, Porto Rico, for a Protestant Episcopal church, \$6,000.

Thompson, E. C., and wife, Indianapolis, Ind., joint gift to Butler College, in that city, for a library, \$20,000, supplementing previous gift of \$10,000.

Thompson, J. V., Uniontown, Pa., gift to Washington and Jefferson College for the endowment of the president's chair, \$100,000.

Thompson, Mary Thaw, gift to Washington and Jefferson College, Washington, Pa., for a new library building, \$10,000, supplementing \$50,000 given for the same purpose by her husband, William R. Thompson.

Thompson, Thomas, Poughkeepsie, N. Y., bequest for the support of poor seamstresses and shop-girls of Rhinebeck, N. Y., and Brattleboro, Vt., \$1,100,000.

Thorndike, George L., East Boston, Mass., bequests to the city in trust, the income to purchase coal for widows of East Boston, \$10,000.

Thornton, Mrs. Charles C. G., and **Mary C. Thornton**, Magnolia, Mass., joint gift to Thornton Academy, Saco, Me., \$20,000.

Tilton, Albert, Paterson, N. J., bequests to the General and St. Joseph's Hospitals and the Paterson Orphan Asylum, each \$2,500.

Tilton, Mrs. Caroline Stannard, New Orleans, La., gift to Tulane University for a library, \$50,000.

Tousey, Mary Beach, New York, bequests to Protestant Episcopal churches and institutions, \$1,000,000. Will contested, and upheld, March 15. (See Annual Cyclopædia for 1899.)

Tuck, Edward, New York, gift to Dartmouth College, a building for the School of Administration and Finance, \$100,000, supplementing a former gift of \$350,000.

Tucker, Alfred T., Boston, bequests to Perkins Institute and Massachusetts School for the Blind, Home for Aged Colored Women, Odd-Fellows' Home, Worcester, Children's Mission to the Children of the Destitute, and Franklin Typographical Society of Boston, each \$1,000.

Tuskegee Normal and Industrial Institute, Alabama, gift from four Brooklyn women, \$10,000.

University of the South, Sewanee, Tenn., gift from a friend, to equip Convocation Hall as a library, \$6,000.

Vanderbilt, Mrs. Cornelius, New York, gift to Newport (R. I.) Hospital, a new building.

Vanderbilt, Frederick, New York, gift to Yale University, \$100,000.

Vanderpoel, J. Albert, Boston, bequests to the Children's Aid Society of New York, Wolcott Library Association of Litchfield, Conn., Presbyterian Hospital of New York, and Rutgers College, an equal share in the ultimate division of \$100,000.

Van Vleck, Joseph, Montclair, N. J., gift to the town, a hospital, provided the town maintains it, \$8,000.

Vassar, Mrs. Matthew, Poughkeepsie, N. Y., bequest to Vassar College for a scholarship, \$8,000.

Vaughn-Marquis, Mrs., Ashland, Wis., bequest to the city of Ashland, the Vaughn Library, \$60,000.

Voorhees, Ralph N., Clinton, N. J., gift to Carroll College, Waukesha, Wis., \$25,000.

Wabash Railroad Company, gift to the Young Men's Christian Association, Peru, Ind., \$6,000.

Wallace, Jane A., New York, bequests to the trustees of the Freedmen's Mission and Waldensian Church Mission, each \$3,000; Board of Foreign Missions. Board of Home Missions of the Presbyterian Church, and fund for Relief of Aged Ministers, each \$2,000; and the Seventh Avenue United Presbyterian Church, \$1,000.

Warburg, Felix M., New York, gift to the Hebrew Sheltering Guardian Society, \$5,000.

Warner, Ezra J., Chicago, gift to Middlebury College, to equip the Warner Science Hall, \$12,500.

Warren, Nathan B., Troy, N. Y., bequest to the Mary Warren Free Institute there, \$120,000.

Warren, Mrs. Susan C., Boston, Mass., bequests to the Massachusetts General Hospital, \$20,000; Museum of Fine Arts, \$15,000; Peabody Museum, \$5,000; trustees for a permanent educational foundation at West Brook, Me., \$50,000; and to various charities and colleges, amounts bringing the total to nearly \$150,000.

Wendell, Jacob, New York, bequests to Harvard College, \$5,000, and the Home for Aged Men and Aged Couples and the Home for Incurables, both in New York, each \$1,000.

Wentz, John S., gift to the University of Pennsylvania for the engineering department, \$5,000.

Wesleyan University, gifts from friends toward the fund for an administration building, \$50,000; for special needs, \$25,000.

Wheeler, Schuyler S., gift to the American Institute of Electrical Engineers' Library, New York, the Latimer-Clark collection of electrical works, containing more than 6,000 volumes.

White, Mrs. Elizabeth, Lancaster, Pa., bequest to the Board of Foreign Missions of the Presbyterian Church, \$9,000.

White, Flavia, St. Paul, Minn., bequest to the city of Whitewater, Wis., for public library, \$17,000.

White, Stephen V., New York, gift to Knox College endowment fund, \$5,000.

White, Susan J., Boston, bequests to the Massachusetts Society for Prevention of Cruelty to Animals, Home for Aged Couples, Home for Aged Women, Massachusetts Homeopathic Hospital, and Young Men's Christian Union of Boston, each \$12,000; and Sailors' Snug Harbor, Quincy, Bethesda Society, Massachusetts Society for Prevention of Cruelty to Children, and Eye and Ear Infirmary, each \$10,000.

Whitehouse, Mr. and Mrs. W. Fitzhugh, joint gift to Trinity Church, New York, heroic-size statues of the evangelists—St. Matthew, St. Mark, St. Luke, and St. John.

Whitney, Anna Eliza, Lancaster, Mass., gift to Bolton, for a public library, \$10,000.

Whitney, Mrs. David, Detroit, gifts to twenty charitable and religious societies, aggregating \$125,000.

Whitney, William C., New York, gift to Yale College for its bicentennial fund, \$25,000, and to the Nassau Hospital, Mineola, Long Island, N. Y., \$6,000.

Wiestling, Marie K., Frederick, Md., bequests to the Presbyterian Board of Foreign Missions, \$30,000; American Board of Commissioners for Foreign Missions, \$5,000; American Tract Society, \$5,000.

Wilbur, Warren A., South Bethlehem, Pa., gift to Lehigh University for apparatus for its mechanical engineering department, \$5,000.

Wilcox, Mrs. Harriet, Brooklyn, N. Y., bequests to Westerly (R. I.) Memorial and Library Association, \$150,000; Hampton Industrial and Normal Institute, Hampton, Va., Children's Aid Society, New York city, New York Skin and Cancer Hospital, Home for Aged Men, Providence, R. I., and Wesleyan University, Middletown, Conn., each \$20,000; the Industrial Home for the Blind, Brooklyn, N. Y., Association for Improvement of the Poor of New York City, American Missionary Society of New York City, Home for Consumptives, New York, each \$10,000; and Broad Street Christian Church, First Baptist, Calvary Baptist, and Methodist Episcopal Churches, all in Westerly, each \$5,000.

Williams, J. P., Savannah, Ga., gift to Emory College, Covington, Ala., for a building for the department of science, \$15,000.

Wisler, Henry H., Philadelphia, Pa., bequest to the Fiftieth Baptist Church of Philadelphia, real estate for endowment of the Wisler Memorial Baptist Home.

Wolff, Bernard, Jr., Pittsburg, Pa., bequests for benevolent purposes, \$22,000, and a residuary estate of \$250,000, one-half to Franklin and Marshall College, Lancaster, Pa., one-fourth to Catawba College, Newton, N. C., and one-fourth to its Board of Home Missions of the Reformed Church.

Wood, H. Holton, Derby, Conn., gift to the town, a library building, and for books, \$5,000.

Wyman, William, Baltimore, Md., gift to Johns Hopkins University, 60 acres of land in Baltimore.

Yale University, gifts from a friend to construct a new building for the medical school, \$100,000; from a friend for the erection of a Young Men's Christian Association building, \$50,000; from the family of Robert Callender, class of '98, of Providence, R. I., \$6,000; and from the class of '96, a memorial gateway in memory of Messrs. Cheney and Ives. See also individual names.

Young, Edward F. C., Jersey City, N. J., gift to the Children's Home in that city, \$5,000.

Young, George L., Boston, bequests to the Children's Hospital, Massachusetts General Hospital, Boston Lying-in Hospital, Massachusetts School for the Blind, and American Unitarian Association, each \$5,000.

GREAT BRITAIN AND IRELAND, a monarchy in western Europe formed by the Kingdom of England and the Principality of Wales with the Kingdom of Scotland, forming together the Kingdom of Great Britain, and this with the Kingdom of Ireland, the whole constituting the United Kingdom of Great Britain and Ireland, which holds supreme dominion over the Empire of India and of colonies and dependencies of various kinds—self-governing federations and colonies, colonies governed partly by the Crown but having representative institutions, Crown colonies, and protectorates under native laws and rulers—constituting with the United Kingdom the British Empire. The reigning sovereign is Edward VII, eldest son of Victoria I and Prince Albert, Duke of Saxe-Coburg-Gotha, born Nov. 9, 1841, who succeeded to the throne on the death of his mother, Jan. 22, 1901. The heir apparent is Prince George, Duke of York and Prince of Wales, the only surviving son of the King and Queen.

The power to legislate for the United Kingdom and for all the members of the British Empire, except in so far as the power has been delegated to local legislative authorities, is vested in the British Parliament, consisting of a House of Lords and a House of Commons. Members of the House of Lords are the princes of the royal blood; spiritual lords, who are the metropolitan bishops of ancient English sees; hereditary peers of England, of Great Britain, and of the United Kingdom; hereditary peers of Scotland, elected by their fellow peers for the duration of Parliament, and of Ireland, elected for life; and life peers and law lords. The number of peers on the roll in 1900 was 593. The House of Commons contains 670 members, elected in boroughs and counties, and in universities, by all male householders and lodgers, by secret ballot. The number of registered electors in 1900 was 5,287,285 in England and Wales, represented by 495 members—253 for counties, 237 for boroughs, and 5 for universities; 681,132 in Scotland, represented by 72 members—39 for counties, 31 for boroughs, and 2 for universities; and 764,196 in Ireland, represented by 103 members—85 for counties, 16 for boroughs, and 2 for universities. The duration of Parliament is seven years, unless it is previously dissolved. The average life of a Parliament during the reign of Queen Victoria was less than four years and five months. The Committee of Ministers, called the Cabinet, representing the majority for the time being in the House of Commons, exercises in reality the executive authority that is nominally vested in the Crown. The Prime Minister chooses his colleagues and dispenses the patronage of the Crown; he initiates the policy of the Government or approves the measures suggested by the other ministers in their several departments, and when

his policy or acts encounter the disapproval of Parliament, manifested by an adverse vote on a Cabinet question or by a direct vote of censure, he either resigns with the rest of the Cabinet forthwith, or appeals to the country by dissolving Parliament and ordering new elections. Usually a Cabinet resigns the retiring Prime Minister advises the Sovereign as to the selection of the statesman most competent to form a new Government, usually the leader of the Opposition in the House of Commons. Formerly on the death of the sovereign the ministers retired, but the law was changed, so that at the demise of Queen Victoria all officers of the Crown retained their commissions. The Cabinet formed on Nov. 1, 1900, was composed as follows: Prime Minister and Lord Privy Seal, the Marquis of Salisbury; Lord President of the Council, the Duke of Devonshire; Lord High Chancellor, the Earl of Halsbury; Secretary of State for Foreign Affairs, the Marquis of Lansdowne; Chancellor of the Duchy of Lancaster, Lord James of Hereford; First Lord of the Treasury, Arthur J. Balfour; Secretary of State for the Home Department, C. T. Ritchie; Chancellor of the Exchequer, Sir Michael E. Hicks-Beach; Secretary of State for the Colonies, Joseph Chamberlain; Secretary of State for War, W. St. John F. Brodrick; Secretary of State for India, Lord George Hamilton; First Lord of the Admiralty, the Earl of Selbourne; President of the Local Government Board, W. H. Long; President of the Board of Trade, Gerald Balfour; Lord Lieutenant of Ireland, Earl Cadogan; Lord Chancellor of Ireland, Lord Ashbourne; Secretary for Scotland, Lord Balfour of Burleigh; First Commissioner of Works, A. Akers-Douglas; President of the Board of Agriculture, R. W. Hanbury; Postmaster-General, the Marquis of Londonderry.

Area and Population.—England has an area of 50,867 square miles, Wales 7,442 square miles, Scotland 29,785 square miles, Ireland 32,593 square miles, the Isle of Man 227 square miles, and the Channel Islands 75 square miles, making the total area of the United Kingdom 120,979 square miles. The population of England and Wales increased from 17,927,609 in 1851 to 20,066,224 in 1861, 22,712,266 in 1871, 25,974,439 in 1881, and 29,002,525 in 1891. In Scotland the population increased from 2,888,742 in 1851 to 3,062,294 in 1861, 3,360,018 in 1871, 3,735,573 in 1881, and 4,025,647 in 1891. In Ireland the population was 6,552,385 in 1851, having decreased from 8,175,124 in 1841, and it has since decreased to 5,798,564 in 1861, 5,412,377 in 1871, 5,174,836 in 1881, and 4,704,750 in 1891. The islands in the British seas had 147,842 inhabitants in 1891, of whom 55,608 inhabited the Isle of Man, 54,518 Jersey, and 37,716 Guernsey and Alderney.

The preliminary returns of the census of April 1, 1901, make the population present in the United Kingdom 41,454,578, an increase in ten years of 3,721,656, exceeding by 873,582 the increase between 1881 and 1891. England and Wales had a population of 32,526,075, showing an increase of 12.17 per cent., compared with 11.65 per cent. in the preceding decennium. The natural increase of population in the United Kingdom since 1891 was 4,311,543, showing a net emigration of 589,887. The rate of increase in population for the United Kingdom was 9.9 per cent., compared with 8.2 between 1881 and 1891, and 10.8 between 1871 and 1881. There was a higher rate of increase in Great Britain than in the preceding decennium, and in Ireland a lower rate of decrease. The excess of births over deaths in England and Wales was 12.39 per cent., compared with 13.97 between 1881 and 1891. The number

of males was 15,721,728, and of females 16,804,347, showing an excess of 1,082,619 females, compared with 896,723 in 1891, the increase being partly due to the drain of men to South Africa. The population of Scotland in 1901 was 4,471,957, an increase of 446,310, or 11.1 per cent., against 7.8 per cent. in the last decennium, and 11.2 in the one preceding. The excess of births over deaths in Scotland for the ten years was 499,768, showing a loss of 53,458 by excess of emigration over immigration. The population of Ireland was 4,456,546, showing a decline in ten years of 248,204, or 5.3 per cent., compared with 9.1 per cent. between 1881 and 1891, and 4.4 per cent. between 1871 and 1881. The excess of births over deaths in Ireland in the last ten years was 218,222, showing a loss by emigration of 466,426. The population of the Isle of Man declined in the ten years from 55,608 to 54,758, or 1.5 per cent., compared with 3.8 per cent. in the previous decennium. The population of Jersey decreased from 54,518 to 52,796, or 3.2 per cent., against an increase of 4 per cent. in the previous ten years. The population of Guernsey increased from 35,289 in 1891 to 40,477 in 1901, or at the rate of 14.7 per cent., compared with 8.1 per cent. between 1881 and 1891. In Alderney the population was 2,062, a gain of 11 per cent., compared with a loss of 9.3 per cent. in the previous decennium. The island of Sark had 506 inhabitants, a decline of 11.2 per cent. The aggregate population of the islands in the British seas was 150,599, showing an increase of 1.9 per cent., compared with 4.7 per cent. from 1881 to 1891. The urban population in England and Wales was 77 per cent. of the whole. The population of Liverpool was 684,947; of Manchester, 543,969; of Birmingham, 522,182. In 9 towns of 250,000 population and upward, including London, the rate of increase was 12.48 per cent.; in 24 having between 100,000 and 250,000 it was 44.61 per cent.; in 42 having from 50,000 to 100,000 it was 14.06 per cent.; in 141 having from 20,000 to 50,000 it was 19.52 per cent.; in 219 having from 10,000 to 20,000 it was 17.20 per cent.; in 472 having from 3,000 to 10,000 there was a decrease of 3.51 per cent.; and in 215 having less than 3,000 the mean decrease was 12.93 per cent. The 1,122 urban districts, the number having increased from 1,011 in 1891 and 967 in 1881, the mean rate of growth was 15.22 per cent.

The number of marriages in England and Wales in 1899 was 261,963; of births, 928,640; of deaths, 541,824; excess of births, 376,816. The birth rate has fallen from 35.6 per mille in 1878 to 29.3 in 1899. In Scotland the number of marriages in 1899 was 32,935; of births, 130,656; of deaths, 79,548; excess of births, 51,108. The number of marriages in Ireland was 22,192; of births, 103,815; of deaths, 79,772; excess of births, 24,043. The emigration from the British islands from 1853 to 1899 was 8,695,931, of whom 5,782,654 went to the United States, 902,149 to British America, 1,421,535 to Australia and New Zealand, and 589,593 to other places. The number of emigrants, including foreigners, who sailed from British ports in 1900 was 299,238, compared with 240,696 in 1899. The total in 1899 consisted of 139,491 males and 101,205 females. In that year there were 162,111 immigrants, making the net emigration 78,585. The emigrants in 1899 of British and Irish birth numbered 146,362, and the immigrants of British and Irish birth 100,246, making the net emigration from the British islands 46,116. The number of Irish who left Ireland in 1899 was 41,232, compared with 32,241 in 1898. The total number from 1851 to the end

of 1899 was 3,796,131. The number of British and Irish emigrants in 1899 was 169,465, an increase of 23,103 over the preceding year. Of the total number 103,055 were English, an increase of 15,655; 20,502 were Scotch, an increase of 4,430; and 45,908 were Irish, an increase of 3,018. Of the number of emigrants, natives and foreigners, in 1900 the number who sailed to the United States was 189,447; to British America, 50,445; to Australasia, 15,782; to other countries, 43,564.

Finances.—The revenue for the year ending March 31, 1900, was estimated in the budget at £111,157,000, and the expenditure, including supplementary estimates, at £134,671,823. The actual revenue was £119,839,905, and the actual expenditure was £133,722,407, leaving a deficit of £13,882,502. Receipts from taxation, including customs, excise, and estate duties, the land tax, the house duty, and the income and property tax produced £98,496,312, and the non-tax revenue, derived from the postal and telegraph services, Crown lands, interest on Suez Canal shares, and miscellaneous sources, was £20,136,623, making the total net receipts £118,632,935. The net revenue from customs was £23,043,472, of which £10,885,922 were collected on imports of tobacco, £4,628,946 on tea, £2,470,802 on rum, £1,518,231 on brandy, £909,896 on other spirits, £1,729,540 on wine, £191,509 on coffee, £220,034 on raisins, £124,410 on currants, £151,220 on cocoa, and £212,962 on other dutiable imports. The net excise receipts were £31,808,704, of which £19,335,360 were collected on spirits, £11,887,923 on beer, £249,439 on license duties, £328,160 from railroads, and £7,822 from other sources. Estate and death duties produced £13,909,313, of which £9,865,538 came from the estate duty, £31,490 from the temporary estate duty on property of persons dying before August, 1894, £47,220 from the probate duty on such estates, £3,215,227 from the legacy duty, £704,030 from the succession duty, and £45,808 from the corporation duty. Stamps produced £8,429,471, of which £4,265,460 were paid on deeds, £1,431,306 on receipts, £704,023 on bills of exchange, £288,827 on patent medicines, £170,267 on licenses, £581,328 on the capital of companies, £305,284 on bonds to bearer, £237,462 on insurances, and £445,514 from miscellaneous sources. The yield of the land tax was £8,429,471; of the house duty, £739,493; of the property and income tax, £18,867,336. Of the non-tax revenue £13,192,020 came from the post-office, £3,389,746 from the telegraph service, £459,708 from Crown lands, £834,003 from interest on Suez Canal shares belonging to the Government, £947,244 from fee stamps, £815,452 from the mint, £176,368 from the Bank of England, and £322,082 from various other sources. The expenditure under the three main heads was £25,951,406 for consolidated fund charges, £69,600,000 for the army and navy supply services, and £38,171,000 for the civil and miscellaneous services, including the cost of collection. Of the consolidated fund charges £23,000,000 were for the national debt, £216,657 for interest on the war debt outside of the fixed charge, £409,060 for the civil list, £272,869 for annuities and pensions, £78,897 for salaries, £518,654 for courts of justice, and £305,330 for miscellaneous payments. The cost of the army was £43,552,900, and £47,100 besides for ordnance factories; cost of the navy, £26,000,000; civil services, £22,530,000; customs and inland revenue, £2,800,000; post-office, £8,480,000; telegraph service, £3,601,000; packet service, £760,000. The extraordinary expenditures under various acts of Parliament were £150,000 for barracks, £290,000 for telegraphs, £1,034,000

for the Uganda railroad, £1,093,216 under the military works act, and £820,000 for expropriation of the Royal Niger Company; total, £4,847,216. The balance in the treasury on April 1, 1899, was £8,919,173, and the gross receipts for the year were £154,012,351; while the gross issues out of the exchequer were £159,414,477, leaving on April 1, 1900, a balance of £3,517,047. Of the expenditure on the national debt £15,242,192 were for interest of the funded debt, £7,290,491 for terminable annuities, £272,577 for interest of unfunded debt, £174,864 for management of debt, and £19,876 for the new sinking-fund. The original estimate of expenditure on the army for 1900 was only £20,617,200. Supplementary estimates were presented on Oct. 17, 1899, for £10,000,000; on Feb. 8, 1900, for £13,000,000; on June 22, 1900, for £11,500,000; and on Dec. 3, 1900, for £16,000,000. For 1900 the budget estimate for the army was £61,499,400. The estimate for the navy in 1900 was £26,594,500, and in 1901 it was £27,522,600. The army estimate of 1901 for effective services was £14,908,800 for regimental pay and the general staff, against £5,654,450 in the estimate of 1900; £69,100 for chaplains, against £62,350; £32,100 for military prisons, against £31,200; £190,000 for the regular army reserve, against £761,000; £555,000 for medical establishments, against £305,800; £2,288,000 for the militia, against £571,000; £144,000 for the yeomanry, against £75,000; £1,230,000 for volunteers, against £624,200; £10,000,000 for transport and remounts, against £790,000; £13,100,000 for provisions and forage, against £3,425,500; £4,680,000 for clothing, against £2,531,000; £2,670,700 for works and buildings, against £1,211,900; £8,000,000 for stores, against £2,531,000; £113,800 for military education, against £111,100; £66,900 for miscellaneous services, against £60,200; and £275,000 for the War Office, against £251,500; total effective services, £58,323,400, against £17,553,000 in the normal budget framed before the Boer war; pensions and other non-effective services, £3,176,000, against £3,064,200. The civil service estimates for 1901 amount to £22,838,808, comprising £2,347,341 for salaries, £1,951,427 for public works and buildings, £3,817,764 for law and justice, £12,563,455 for education, science, and art, £1,513,875 for diplomatic, consular, and colonial services, and £588,051 for non-effective and charitable services. The rate of income tax in 1900 was 8*d.* per pound sterling, yielding £18,750,000, against £18,000,000 in 1899, when the gross amount of the annual value of property and profits assessed to income tax was £758,571,709, compared with £465,594,366 in 1871. The amount in 1899 was £653,686,806 in England, £71,753,602 in Scotland, and £33,131,301 in Ireland. The annual value of railroads assessed to income tax in the United Kingdom in 1899 was £40,033,665; of mines and quarries, £10,367,705; of gas-works, £5,636,205; of water-works, £4,537,135; of canals, £3,505,682; of iron-works, etc., £114,091,214. In pursuance of a series of acts of Parliament additional beer and spirit duties, excise licenses, and a share of the probate and estate duties are collected by imperial officials for local authorities. The amount thus collected in 1900 was £10,000,381, and the payments made to local taxation accounts were £9,964,661. Of the total revenue collected in 1900, amounting to £128,633,000, including local taxation revenue, £103,755,500 were collected in England, £13,633,000 in Scotland, £8,664,500 in Ireland, and £2,580,000 from imperial sources. Of the total expenditure, £143,687,000 in amount, £97,519,000 were expended for imperial purposes,

and £34,215,000 on English, £1,973,000 on Scottish, and £6,980,000 on Irish service.

The exchequer revenue, aside from receipts from new taxation, increased £16,000,000 over the exchequer revenue for 1896, which was £102,000,000. The expenditure has increased in the five years £28,000,000, the naval estimates growing from £18,701,000 to £30,876,000, the army estimates from £18,000,000 to £30,000,000, the civil service estimates from £19,297,000 to £23,630,000.

The expenditure for 1902 was estimated at £187,602,000, of which £27,800,000 are for debt and other consolidated fund charges, and £159,802,000 for supply services. The estimated receipts on the basis of existing taxation are £132,255,000. The estimated yield of customs is £23,600,000; of excise, £33,100,000; of death duties, £14,000,000; of stamps, £8,000,000; of the land tax and house duty, £2,500,000; of the income tax, £30,000,000; of the post-office, £14,300,000; of telegraphs, £3,450,000; of Crown lands, £475,000; of the Suez Canal shares, etc., £830,000; from miscellaneous sources, £2,000,000. The new taxes authorized by Parliament were an increase in the income tax of 2*d.*, estimated to yield £3,800,000; a sugar duty of $\frac{3}{4}$ *d.* a pound, which was expected to give £5,100,000; and an export duty of 1*s.* a ton on coal, of which the estimated yield was £2,100,000, making £11,000,000 of revenue from new taxation, which reduces the estimated deficit of £55,347,000 to £44,347,000, and it is further reduced by the suspension of the sinking-fund of £4,640,000 to £39,707,000, but interest on the fresh debt already issued amounts to £1,125,000, making the final deficit to be covered by new debt £40,832,000. The income tax with the additional 2*d.* is 14*d.* in the pound. The taxes on beer, spirits, tobacco, tea, and the few other articles of general consumption that are taxed had already been augmented to the limit. The revenue showed no evidence of expansion. There was a falling off of death duties and stamps; the consumption of beer was diminished; the customs receipts were unsatisfactory. Wine was taxed so high that the revenue fell. Tea, a product of India and Ceylon, where the growers were suffering from the effects of overproduction, was already taxed up to 75 per cent. of its value. The tobacco duty, which had been changed twice in three years, could not be again increased without disturbing the trade. The whole of the additional burden could not be thrust on the small class that pays the income tax and the death duties. Petty taxes on dogs, horses, theater and railroad tickets, auction sales, etc., were rejected by Sir Michael Hicks-Beach as likely to cause disturbance and vexation without yielding much revenue. He selected sugar as an article of universal consumption, taxed in the United States and in every Continental country, and pronounced by all economists an article suitable for taxation. The consumption of sugar in the United Kingdom is 90 pounds a head, but the household consumption is estimated to be not over 56 pounds. The tax is imposed on raw and refined sugar, on molasses and glucose, and is so graduated as to amount to $\frac{3}{4}$ *d.* a pound on refined sugar, both domestic and imported. Saccharin, which is used as a substitute for sugar in manufactures, is taxed at a high rate, almost prohibitive. The coal duty reversed the policy of Great Britain and of most advanced countries, an export duty being an anomaly in modern taxation. The export duty on coal was taken off in Great Britain when the corn duties were abolished, but coal in England is a natural monopoly and belongs in a separate class. The coal exports amount to 12 per cent.

of the total exports, and the duty of 1s. a ton is not expected to diminish the export of Welsh coal, which goes all over the world, or of coal from the north country, which goes to Baltic ports, because English coal is the best in Europe for steam-engines, and is nearest to seaports. If any diminution of exports results the country will retain so much of the wealth on which the prosperity of England depends. Coal will either be sold more cheaply to the consumer or will be husbanded for future consumption. Mines which can be cheaply worked are being exhausted rapidly, and though the coal-fields are not likely to be totally exhausted in any measurable period, dear coal has come already. The expenditure for the year ending March 31, 1901, amounted to £198,246,000. In five years the growth of expenditure had been £28,000,000 exclusive of the war in South Africa, and the growth of revenue only £16,000,000. The war-taxes yielded in 1901 about £12,000,000, and were expected to yield £11,000,000 in 1902. The debt raised for war expenses requires an expenditure of over £3,000,000 a year for interest. The war debt was already £13,000,000 of treasury bills, £10,000,000 of three-year and £14,000,000 of five-year exchequer bonds, and a war loan of £30,000,000. An additional debt of £60,000,000 was authorized, to be raised by the issue of consols, etc., making the war debt £127,000,000. This was more than the actual deficiency caused by the war. The war expenditure in 1901 amounted to £68,620,000, one-third of the total expenditure of the exchequer, which was £183,592,000. The war in South Africa cost during the year £65,120,000 and the Chinese operations £3,500,000. Of the war expenses £15,413,000 were paid out of revenue and the remainder was raised by borrowing. The total revenue collected by the Government in 1901 was £140,019,000, of which £9,634,000 went into the local taxation, leaving the revenue of the exchequer £130,385,000, being £2,865,000 more than the estimate, but £55,000,000 less than the expenditure. The budget estimate of expenditure was £150,061,000. The estimated expenditure was augmented by £30,704,000 of supplementary estimates for the wars in South Africa and China, £578,000 for interest on new debt, large additional expenditures due to wars in Ashanti and East Africa, and £2,519,000 for naval guns, ammunition, and stores, offset by £1,586,000 of savings on the original estimate. Including the sum contributed in relief of local taxation and £4,915,000 borrowed from the national debt commissioners for capital expenditure on naval and military works, the Uganda railroad, telephones, etc., the total disbursements amounted to £198,246,000. The excess of revenue beyond the estimate was due to forestallments on dutiable articles, which exceeded those of 1900, amounting to £3,250,000. The receipts from customs were £26,262,000, exceeding the estimate by £2,642,000, the duties on tea being £1,050,000, and those on tobacco £1,680,000 more than the estimate. The duty on wine yielded £1,492,000, a decrease of £238,000 compared with the preceding year. The revenue from beer was £13,500,000, which was £470,000 less than the estimate, the vendors having recouped themselves for the increased tax by diluting both beer and spirits. The death duties yielded £17,090,000, of which £12,980,000 went to the exchequer and £4,453,000 to the local taxation fund. The total capital value of estates paying death duties in 1901 was £262,000,000, a decrease of £30,000,000 compared with 1900. The yield of stamps was £7,825,000, falling off £675,000, business on the stock exchange being checked by the war. The yield of the income tax

was £26,920,000, which was £1,120,000 above the estimate. The income tax first began to produce £2,000,000 for each penny in 1889. Since then £1,440,000 a year has been given away in abatements to the poorer taxpayers, and yet in 1901 a penny of income tax produced over £2,400,000, and the total amount of income assessed has increased £120,000,000 in twelve years. The total receipts from customs in 1902 are estimated at £30,800,000; excise, £33,100,000; death duties, £14,000,000; stamps, £8,000,000; land tax and house duty, £2,500,000; income tax, £33,800,000. The total taxation revenue is estimated at £122,200,000, and non-taxation revenue at £21,055,000, making a total revenue of £143,255,000. Suspension of the sinking-fund brings the estimated expenditure down to £182,962,000, to which £1,250,000 must be added for interest on new debt.

The amount of the funded debt on March 31, 1900, was £552,606,989; the capitalized value of terminable annuities was £60,238,885; and the unfunded debt was £16,133,000, making a total of £628,978,783, not including £10,186,000 for reproductive services, of which £277,305 were borrowed under the Russian Dutch loan act of 1891, £95,335 under the imperial defense act of 1888, £2,810,014 under the barracks act of 1890, £1,456,145 under the telegraph act of 1892, £693,528 under the naval works acts of 1895 and 1899, £3,060,368 under the Uganda railway act of 1896, £454,903 under the act of 1895 for the acquisition of sites for public offices, £515,294 under the Whitehall public office act of 1897, and £823,590 under the Royal Niger Company act of 1899, which sums increase the total indebtedness to £639,165,265, against which may be offset £24,312,000, the value of the Suez Canal shares purchased from the Khedive, £868,461 of other assets, and £3,517,047 of exchequer balances in bank. The total debt on March 31, 1901, was £687,932,000, not including £14,731,000 for reproductive services, the debt having been increased £59,000,000 as the result of the war. The funded debt outside of war debt was increased £1,425,000 by the operation of life annuities, which can not be suspended when the sinking-fund is, and the terminable annuities were increased in capital value £1,378,000 through the fall in consols.

The Army.—The regular army of the United Kingdom in the year ending March 31, 1901, was, according to the estimates, composed of 9,365 officers, 1,290 warrant officers, 19,145 sergeants, 4,382 drummers and musicians, and 178,267 rank and file; total strength, 212,449 of all ranks, being 27,596 men above the strength for the preceding year. There were 354 officers and 136 men attached to the general staff, with 209 accountants, 86 chaplains, 96 surgeons, and 77 veterinarians; 551 officers, 1,336 non-commissioned officers and musicians, and 12,351 men in the cavalry; 1,473 officers, 3,281 non-commissioned officers and musicians, and 34,231 men in the royal artillery; 683 officers, 1,525 non-commissioned officers and musicians, and 7,749 men in the royal engineers; 3,382 officers, 8,208 non-commissioned officers and musicians, and 103,547 men in the infantry; 350 officers, 798 non-commissioned officers and musicians, and 11,042 men in the colonial corps; 243 officers, 1,107 non-commissioned officers, and 1,296 men in departmental corps; 490 officers, 1,303 non-commissioned officers, and 5,311 men in the army service corps; 550 officers, 485 non-commissioned officers, and 2,560 men in the medical corps; 613 officers, 6,101 non-commissioned officers, and 22 men on the staff of auxiliary forces; 36 officers, 110 non-commissioned officers, and 129 men instructing in gunnery and musketry; 102 officers, 280

non-commissioned officers, and 22 men at Woolwich, Sandhurst, and other colleges and schools, and 77 officers and 147 non-commissioned officers in other establishments. The estimates provided, moreover, for 217,551 additional imperial, colonial, and irregular forces during the war in South Africa, making the total strength, exclusive of India, 430,000 men of all ranks. The force maintained for service in the United Kingdom on Jan. 1, 1899, was 106,686 men of all ranks, consisting of 11,676 cavalry, 17,572 artillery, 5,351 engineers, and 72,087 infantry and special corps. Of the total number 79,057 were stationed in England, 3,942 in Scotland, and 23,687 in Ireland. There were at the same date 125,165 British soldiers stationed abroad, of whom 4,257 were in Egypt, 44,605 in the colonies, 74,466 in India, and 1,837 in Crete. The effective strength of the regular forces, home and colonial, in 1901 was reported to be 234,963; of the army reserve of the first class, 24,128; of the militia, 110,743; of the yeomanry, 10,114; of the volunteers, 230,785; total, 610,733 of all ranks at home and in the colonies, or 677,314, including 66,581 regular forces, on the Indian establishment. There were serving in South Africa on Dec. 1, 1900, 142,893 non-commissioned officers and men of the regular army, consisting of 11,600 cavalry, 12,700 artillery, 105,300 infantry, and 13,293 others; also 33,000 colonial troops, 8,000 imperial yeomanry, 7,500 volunteers, and 18,900 militia. The total strength of the forces in South Africa, exclusive of officers, was on that date 210,293. Of the non-commissioned officers and men serving in the British army on Jan. 1, 1899, there were 165,038 Englishmen, 17,285 Scotchmen, 28,358 Irishmen, 10,015 born in the colonies and India, 97 foreigners, and 1,580 not specified.

Army reform has been discussed since the first call for troops to go to South Africa, when only a single battalion could be sent from England without mobilization, and the inadequate reinforcement had to be slowly got together by drafts from India and from the colonial garrisons. The war has shown that better organization is required, and that Great Britain must be able to send at least 3 army corps abroad besides having a properly organized force for home defense. More artillery and mounted troops are needed; the transport and medical service requires to be reformed; the officers should be better trained; there should be less parade drill, and more musketry practice, scouting, and individuality. Apart from war, there must be maintained 115,000 men in India and the colonies, and this force depends on voluntary recruiting. The Government has decided to develop the existing system rather than either to establish a separate Indian army or to adopt compulsion for home defense, which could not in any case be taken up after a year which gave 140,000 voluntary recruits of various kinds. The system decided on by Mr. Brodrick, the Secretary of State for War, is the division of Great Britain and Ireland into the following six army corps districts: Aldershot, Salisbury Plain, Ireland, Colchester, York, and Scotland. Each district will contain troops of all arms necessary for an army corps, and will be provided with barracks, stores complete, and transport. The first 3 corps will consist entirely of regulars; the last 3 will contain 60 battalions of militia and volunteers and 21 militia and volunteer field-artillery batteries. Officers appointed to command in peace must be certified fit to hold the same commands in war. There will be large delegation of authority to army-corps commanders, the decentralization of authority, and the centralization of responsibility. Volunteers and militia in the army

corps will be specially trained. The corps composed of regulars are produced, not by greatly increasing the regulars, but by increasing them from garrison duty abroad; by establishing 5 garrison battalions of older soldiers; by employing 5 Indian battalions in certain stations; and by transferring small coaling stations to the navy, so as to avoid dual control. This will give 5 additional battalions, and will free 18 battalions from garrison duty abroad if the navy takes the coaling stations, otherwise 13 battalions. The militia will be raised from the strength of 100,000 to 150,000, and improved. Each man will receive 3d. a day for rations, as in the army, and will have after two trainings, in order to keep him, the total sum of £4 10s. instead of a 30s. bounty. All men after serving in the regular army and with the reserve, or after ten years of service in the militia, will be entitled to 4d. a day, or £6 a year, for joining the militia reserve for home defense. When necessary these men will be trained in musketry. The gain will be 50,000 men, without raising a single additional recruit. The yeomanry, to be known as the imperial yeomanry, corresponding to similar corps in the colonies, will be armed with rifles and receive horse allowance and extra pay. They will be raised to a strength of 35,000 men, furnishing mounted troops for home defense. The volunteers will consist of 25 battalions, 15 batteries of field-artillery, and 40 batteries of heavy field-artillery, to be specially trained for the army corps and for positions round London. They will have more drill and rifle shooting. The total number of new troops is 126,500, to cost an average of £15 a man, or less than £2,000,000 a year. The institution of these corps and the experience of the war entail reforms in artillery, in the drill and training of troops, in the education of officers, the modification of the rifle, and facilities for training by maneuvers. The home force, consisting of 155,000 regulars, 90,000 army reserves, 150,000 militia, 35,000 yeomanry, and 250,000 volunteers, will number 680,000 men. Of these 260,000 will constitute a field army, 196,000 garrisons at home, 100,000 the volunteers trained for the defense of London, and 4,000 on the staffs, making 560,000 effectives, and leaving a surplus of 120,000, representing the sick and untrained recruits. The question of reform in the War Office was left to be considered by a committee of which Clinton Dawkins was chairman, and to some of its recommendations the Secretary of State gave effect. One of the reforms in the War Office decided upon is to increase the military element considerably.

The army maintained in South Africa throughout 1901 was 200,000 strong, and 30,000 troops were despatched to China, mostly from India. The removal of Major-Gen. Sir Henry Colville from the command of Gibraltar, and his enforced retirement on half-pay, drew upon the Government the censure of its opponents in Parliament. He was dismissed on the advice of Sir Evelyn Wood and the recommendation of Lord Roberts, commander-in-chief of the army, because he failed to succor Gen. Broadwood at Sanna's Post, in the Orange Free State, withdrawing his force when close to the scene of the disaster. Much stronger criticism was directed at the Government by supporters as well as adversaries when the officers selected to command the three army corps of regulars were announced—Sir Redvers Buller, Sir Evelyn Wood, and the Duke of Connaught. Gen. Buller, who had failed to relieve Ladysmith, but sacrificed many soldiers in the attempt after first advising the commander of the garrison to surrender, was acknowledged to be no suitable com-

mander in war for the first corps, in that his appointment was described as a preliminary to his retirement. He replied in an angry speech to his assailants, and when, yielding to the outcry, the Government canceled the appointment, another storm of reproaches broke out, and the officer, who was liked in society and in the army, became a popular hero, Major-Gen. Sir John P. D. French was assigned to the command of the first army corps. The War Office will henceforth be constituted very much as it was before the last transformation, with the Secretary of State as president of the council, the commander-in-chief next, and as other members the Parliamentary and Permanent Under-Secretaries, the Financial Secretary, the Quartermaster-General, Inspector-General of Fortifications, Director-General of Ordnance, Adjutant-General, Director-General of Mobilization and Intelligence, Director-General of the Medical Department, the Secretary of the Council, and any staff-officers that may be specially summoned. An executive committee is constituted, consisting of the Permanent Under-Secretary and the deputy chiefs of the several departments, who will consider all important matters concerning more than one department, and each department will have its special committee, to report to the Permanent Under-Secretary. The Director-General of the Medical Department is added to the Army Board, which, in addition to its present duties, will consider the annual estimates of each department and the allocation of sums allotted for military purposes, the establishments of officers and men of the regular, militia, yeomanry, and volunteer forces, and any subject submitted for discussion by the commander-in-chief or the chief of a department.

The army estimates for the year ending March 31, 1902, provide for a total expenditure of £87,915,000, about £1,000,000 less than the expenditures, including supplementary estimates, for the year ending March 31, 1901. The war expenses were computed at £58,230,000, against £64,736,000 in the previous year. Permanent additions and automatic increases of expenditure make the ordinary expenditure £25,450,000, not including the additions proposed in the new army scheme, the expense of which was estimated at £1,912,000, nor the annual installment for the rearmament of fortresses and the accumulation of stores approved by Parliament in 1901.

The Navy.—There were 14 first-class battle-ships completed on Jan. 1, 1901; launched, but not ready, 7; building or projected, 8; second-class battle-ships ready for service, 12; third-class battle-ships ready, 11; armored cruisers, 6 completed, 8 launched and completing, and 6 building or authorized; protected cruisers, 125 completed and 2 building; torpedo gunboats, etc., 33 completed; destroyers, 96 completed, 1 launched, and 12 ordered; first-class torpedo-boats, 11 ready and 4 building; second-class torpedo-boats, 71; torpedo-vessels, 2; antiquated battle-ship, 13; coast-defense vessels, 10; third-class torpedo-boats, 95. In the year ending March 31, 1901, there were under construction 15 battle-ships, 20 armored cruisers, 2 second-class cruisers, 8 sloops, 41 destroyers, 4 torpedo-boats, and 1 royal yacht. There were 174 vessels in commission on Jan. 1, 1901, of which 43 were in the Mediterranean and the Red Sea, 14 formed the Channel squadron, 15 were stationed on the coast of North America and in the West Indies, 10 in the East Indies, 30 in the China seas, 16 at the Cape of Good Hope and on the west coast of Africa, 8 in the Pacific, 12 in Australia, 4 on the southeast coast of America, 11 were on particular service, 7 were on surveying service, and 4 formed the training squadron.

The estimates of 1901 provided for 82,821 officers and men on sea-service, 4,200 in the coast-guard, 18,590 marines, 1,531 officers and men and 215 marines on other services, 1,003 pensioners, and 6,520 boys in training, making a total of 114,880 of all ranks, an increase of 4,240 over the previous year. The estimates of 1902 provided for a further increase of 3,745 officers and men, making the total number of 118,635. The sum voted for the navy was £30,875,500, against £28,791,900 in 1901. The ship-building vote showed an increase of £1,274,900.

The vessels built since 1896, including the Canopus class, are fitted with water-tube boilers. Construction of the later ships of this class and those of the newer Formidable class, as well as armored cruisers, destroyers, etc., was delayed by the engineering strike. The Formidable, launched at Portsmouth on Nov. 17, 1898, the Irresistible, launched at Chatham in December, 1898, and the Implacable, built at Devonport, are improved Majestics having a displacement of 14,700 tons, driven by 15,000 horse-power, developing a speed of 18 knots, and armed with 4 12-inch guns in barbettes, and 12 6-inch and 16 3-inch quick-firers. According to the program for 1899 3 others of this class have been built. The London was launched in September, 1899, and was followed by the Bulwark and the Venerable. A supplementary program called for 4 more battle-ships of 14,000 tons, and 2 have since been added. The vessels of this class are named the Duncan, Cornwallis, Russell, Exmouth, Montagu, and Albemarle. They have 11-inch armor, an armament of 4 12-inch, 12 6-inch, and 12 3-inch guns, and engines of 18,000 horse-power, capable of making 19 knots. The Canopus, Ocean, Goliath, Albion, Glory, and Vengeance displace 12,900 tons, carry 4 12-inch guns, 12 6-inch quick-firers, and 6 12-pounders, and with 13,500 horse-power make 18½ knots. The protected cruisers Powerful and Terrible, of 14,200 tons, armed with 9.2-inch guns fore and aft and 12 6-inch quick-firers, 18 12-pounders, and 12 3-pounders, have made 22 knots with 25,000 horse-power. The Dido, Doris, Isis, Furious, Gladiator, Vindictive, Arrogant, Hermes, Hyacinth, and Highflyer, of 5,600 and 5,750 tons, have powerful quick-firing armaments, and can steam 19 and 19½ knots. The Diadem, Andromeda, Niobe, Europa, Spartiate, Argonaut, Amphitrite, and Ariadne, of 11,000 tons, carry quick-firing guns only, 16 6-inch, 14 12-pounders, and 20 small ones, and with 16,500 horse-power engines are designed to make 20½ knots. The Cressy, Hogue, Aboukir, Sutlej, Euryalus, and Bacchante, armored cruisers, of 12,000 tons, have 21,000 horse-power engines, giving a speed of 21 knots, and have the same main armament as the Powerful. The Kent, Monmouth, Bedford, and Essex, also armored, armed with 14 6-inch quick-firers and 13 small ones, displace only 9,800 tons, but have engines of 22,000 horse-power, giving a speed of 22 knots. They are 440 feet long, with 66 feet beam and 24½ feet draught, and have 4 inches of armor on their sides. The armored cruisers Drake, King Alfred, Leviathan, and Good Hope have 14,100 tons displacement, and will have engines of 30,000 horse-power, expected to develop a speed of 23 knots, with an armament a little stronger than that of the Powerful. The Berwick, Cornwall, Cumberland, Donegal, Lancaster, and Suffolk, armored cruisers of the same size as the Kent class, have 14 7.5-inch quick-firers and many small ones. The Encounter and Challenger are new protected cruisers of 5,600 tons, able to make 19½ knots and carry 11 6-inch and 15 small quick-firers. The Queen and the Prince of Wales

are first-class battle-ships of the London type, having the same armament, with a displacement of 15,000 tons and engines of 18,000 horse-power, giving a speed of 19 knots. A further development is reached in the 3 battle-ships of the program of 1901, named the King Edward VII, the Commonwealth, and the Dominion, which will have a displacement of 16,500 tons, being 420 feet long, 20 feet longer than the London, and with engines of 18,000 horse-power are expected to be half a knot faster. They will have a protective deck above the machinery and below the water-line, an armor belt reaching 9 inches above the water-line, where it is joined to another belt that rises to the main deck and encircles the entire ship. The armament will consist of 4 12-inch guns, 4 9.2-inch guns, and 10 6-inch guns in casemates of 7-inch armor, with shields separating the 6-inch guns to limit the effect of a bursting charge in any gun to its own crew. The program provides also for the construction of 6 more first-class armored cruisers and 10 destroyers. The cruisers will be improved Monmouths, larger, swifter, with stronger armor and heavier guns. The first-class protected cruiser Spartiate was completed early in 1901. The Challenger and Encounter, of the second class, are an improvement on the Hermes type, having a displacement of 5,600 tons, 1 11-inch and 15 small guns, and 19½ knots speed. They have no wood or copper sheathing. The Pandora is a new third-class cruiser, the only one built lately. The destroyer Viper, with turbine wheel, attained a speed of over 40 knots in the trial in 1900. In the Cobra the same design was followed, which is reproduced with improvements in the latest destroyers. The hulls of these vessels have been found to be too weak for the machinery.

Aug. 3, 1901, the Viper, after striking a rock near Alderney, broke into halves. On Sept. 18, during a storm the Cobra, the only other vessel fitted with the Parsons turbine engines, broke into two pieces in the open water during the naval maneuvers off the North Sea coast of England, and 67 lives were lost, including that of the inventor of the engines, which on these 400-ton vessels, built of ½-inch steel, had the same power as those placed in 10,000-ton battle-ships. Every one of the 113 destroyers completed before March 31, 1901, has water-tube boilers. The first 42 made 26 knots or over on trial; then 66 were ordered to show 30 knots, and in the last 5 a higher speed was demanded. The Albatross made 31½ knots, the Viper with the Parsons engine made in a continued trial 33½ knots, and the Cobra maintained a speed of over 30 knots for three hours with her full load. A speed of 32 knots was demanded in the next one, and in the last one on the program 33 knots. The Government purchased 5 more destroyers, and in 1901 ordered 10 others. The latest torpedo-boats, 4 in number, have a speed of 25 knots. The ship-building program for 1901 comprises 3 battle-ships, 6 armored cruisers, 2 third-class cruisers, and 5 torpedo-boats, besides the 10 destroyers; also 5 submarine boats, on which work was begun in 1900. Parliament voted £9,003,256 to be spent in naval construction during the year ending March 31, 1901. The battle-ships of the Formidable class are armed with a new 12-inch breech-loading wire gun, those of the Cressy class with 9.2-inch breech-loaders of new pattern, and a new gun of 7.5-inch caliber has been adopted. The older machine guns are replaced with .303-inch Maxims. Telescopesights are provided for quick-firing guns. Many of the ships are equipped with wireless telegraph apparatus. A parliamentary committee has given its approbation to the water-tube boiler

for the navy; but the Belleville pattern, with which many ships have been fitted, is condemned.

Commerce and Production.—The area of grain crops in Great Britain in 1900 was 7,335,408 acres, and in Ireland 1,346,978 acres; the area of green crops in Great Britain was 3,180,422 acres, and in Ireland 1,098,871 acres. Flax was grown on 467 acres in Great Britain and 47,327 acres in Ireland, the hop vine on 51,308 acres in Great Britain; 308,108 acres in Great Britain and 12,645 acres in Ireland were bare fallow, 4,759,158 acres in Great Britain and 1,218,009 acres in Ireland were under grass and clover, and 16,729,035 acres in Great Britain and 11,505,187 acres in Ireland were permanent pasture. Of 32,346,000 acres, the total area of England, 11.9 per cent. is uncultivated, 5.1 per cent. is woodland, 6.9 per cent. grazing land and heath, and 76.1 per cent. is under crops and grass. In Wales, having an area of 4,774,000 acres, 12.1 per cent. is uncultivated, 3.8 per cent. woods, 24.8 per cent. heath and pasture, and 59.3 per cent. under crops and grass. The area of Scotland is 19,456,000 acres, of which 21.9 per cent. is barren, 4.5 per cent. woods, 48.4 per cent. heath and grazing land, and 25.2 per cent. under crops and grass. In Ireland, with a total area of 20,334,000 acres, 23.6 per cent. is barren, 1.5 per cent. woodland, 52 per cent. grazing land and heath, and 22.9 per cent. under farm crops and grass. The total area of Great Britain is 56,782,000 acres, including 588,000 acres of inland waters. The surface of mountain and heath land is over 12,900,000 acres, nearly three-fourths of it being in Scotland. Of the total area of the island 86 per cent. is utilized, 32,437,000 acres being under crops and cultivated grasses. The extent of arable land has fallen from 18,335,000 acres in 1870 to 15,708,000 acres in 1900, while the permanent pasture has increased from 12,073,000 to 16,729,000 acres. The land devoted to wheat, turnips, and clover has decreased, also the extent of bare fallow, while the areas under oats, mangolds, cabbage, and miscellaneous green crops have increased, as well as cultivated pasture. The wheat area shows the greatest reduction, from over 4,500,000 acres in 1870 to less than 1,500,000 acres in 1900.

The live stock in Great Britain in 1900 comprised 1,500,143 horses, 6,805,170 cattle, 26,592,226 sheep, and 2,381,932 pigs; in Ireland, 491,143 horses, 4,608,443 cattle, 4,386,697 sheep, and 1,268,474 pigs. There was a decrease of about 16,000 in the number of horses and 647,000 in sheep, and in cattle a slight increase. The area planted to wheat in 1900 was 1,845,042 acres in Great Britain and 53,797 acres in Ireland; to barley, 1,990,265 acres in Great Britain and 174,184 acres in Ireland; to oats, 3,026,088 acres in Great Britain and 1,104,848 acres in Ireland; to beans, 263,240 acres in Great Britain and 2,296 acres in Ireland; to peas, 263,240 acres in Great Britain and 443 acres in Ireland; to potatoes, 561,361 acres in Great Britain and 654,413 acres in Ireland; to turnips, 1,688,606 acres in Great Britain and 297,895 acres in Ireland. The production of wheat in the United Kingdom in 1899 was 1,731,000 bushels; of barley, 6,817,000 bushels; of oats, 51,393,000 bushels; of beans, 85,000 bushels; of peas, 10,000 bushels; of potatoes, 2,760,000 tons; of turnips, 4,309,000 tons. The average yield of wheat was 33.38, of barley 40.17, of oats 45.26, of beans 42.63, of peas 23.95 bushels to the acre; of potatoes 4.16, and of turnips 14.29 tons.

The quantity of fish landed on the coasts of England and Wales in 1900 was 429,641 tons, on the coast of Scotland 268,457 tons, on the coast of Ireland 30,189 tons; total, 728,287 tons, valued at

£9,210,297. Including shell-fish, the value was £9,673,274. The number of men employed in the fisheries in 1899 was 108,513; the number of boats, 26,573. The quantity of fish conveyed inland was 488,181 tons in 1899, and the net imports were 104,779 tons, valued at £2,693,946; exports of herrings, £2,205,217; total fish exports, £2,931,262.

The production of iron ore in the United Kingdom in 1899 was 14,461,330 tons, valued at £3,895,485, containing 4,913,846 tons of iron, value £17,034,874. The production of iron pyrites was 12,230 tons, value £4,671; production of lead ore 30,999 tons, valued at £296,784, containing 23,552 tons of metal, worth £355,379; production of tin ore, 6,392 tons, valued at £440,509, containing 4,013 tons of metal, value £508,094; production of copper ore, 8,144 tons, valued at £33,798, containing 637 tons of metal, worth £49,768; production of copper precipitate, 175 tons, value £1,550; production of zinc ore, 23,135 tons, valued at £139,482, containing 8,698 tons of metal, worth £220,132; production of bog iron ore, 4,321 tons, value £1,080; production of alum clay and shale, 13,829 tons, valued at £2,599, containing 550 tons of metal, worth £71,125; production of sodium, 380 tons, value £41,350; production of silver, 191,127 ounces, value £21,942; production of gold ore, 3,047 tons, valued at £10,170, containing 3,327 ounces of metal, value £12,086.

The total value of metallic ores was £4,826,178, and of their metallic contents when extracted £18,314,750. The quantity of clay of all kinds quarried in 1899 was 15,064,857 tons, value £1,542,657; of sandstone, 5,212,624 tons, value £1,653,704; of slate, 639,840 tons, value £1,787,071; of limestone, 12,302,890 tons, value £1,335,067; of salt, 1,914,893 tons, value £644,174; of oil shale, 2,210,824 tons, value £553,003; of granite, 4,709,925 tons, value £1,095,763; of chalk, 4,678,132 tons, value £209,629; of gravel and sand, 1,771,276 tons, value £132,399; of gypsum, 212,563 tons, value £76,456; of arsenic and arsenic pyrites, 17,348 tons, value £66,374; of barytes, 24,664 tons, value £25,644; of ochre, 16,314 tons, value £13,579; value of other minerals, excluding coal, £27,511; production of coal, 220,094,781 tons, value £83,481,137; value of all non-metallic minerals, £92,644,168; value of total mineral production in 1899, £97,470,296, of which £68,240,751 represent English, £15,102,883 Welsh, £13,843,230 Scotch, £220,130 Irish, and £63,302 Manx products. The number of persons employed in mines was 764,166, of whom 729,009 worked in 3,216 coal-mines and 35,157 in 794 metalliferous mines. The value of the mineral products of the United Kingdom in 1898 was £77,415,063, the increase of £20,000,000 in 1899 being due to increased production and enhanced price of coal. The exports of coal in 1899 were 43,111,404 tons, valued at £23,093,250, compared with 36,562,796 tons, valued at £18,135,502 in 1898. Of the total exports in 1899 France took 6,870,365 tons, Italy 5,526,995 tons, Germany 5,058,573 tons, Sweden 3,049,121 tons, Russia 3,397,692 tons, Egypt, 2,125,924 tons, Spain 2,291,439 tons, Denmark 2,052,807 tons, Norway 1,445,008 tons, the Argentine Republic 1,001,251 tons, Holland 1,288,829 tons, and the rest went principally to Brazil, Belgium, Portugal, and Algeria. The exports of coal in 1900 were 44,089,197 tons, of which 18,459,207 tons were shipped from Welsh ports, Gloucester, and Bristol, 13,135,435 tons from Northumberland, Durham, and other northeastern English ports, 5,779,153 tons from ports on the east coast of Scotland, and 1,597,941 tons from western Scottish ports. To northern Russia, Denmark, Germany, Holland, Belgium, Iceland, and the whale fisheries the

quantity supplied was 18,108,371 tons; to France, central Europe, the Balkan countries, southern Russia, Egypt and other Mediterranean countries, the Azores, and Madeira, 21,067,742 tons. From Cardiff alone 13,383,319 tons were shipped. The coal shipped for the use of steamers in 1900 was 11,752,316 tons, against 12,226,801 tons in 1899.

The imports of iron ore in 1899 were 7,054,578 tons, valued at £5,374,918, of which 6,186,022 tons, valued at £4,598,636, came from Spain. The total quantity of iron ore produced and imported in 1899 was 22,041,788 tons. There were 411 furnaces in blast which smelted 22,820,302 tons of ore, producing 9,421,435 tons of pig iron. The imports of pig and puddled iron were 171,373 tons and the exports 1,380,342 tons. The exports of bar and angle iron were 159,659 tons; of rails, 590,667 tons; of wire, 48,498 tons; of plates for tinning, 85,729 tons; of tin plates, 256,373 tons; of cast and wrought iron, 358,773 tons; of hoops and plates, 347,937 tons; of old iron, 115,726 tons; of steel, 329,309 tons; of steel and iron, 44,167 tons; total iron and steel, 3,717,180 tons. The importation of copper ore and regulus was 207,381 tons; of copper, 65,784 tons; of lead, 198,377 tons; of tin, 27,173 tons; of zinc, 69,949 tons.

The quantity of raw cotton imported in 1899 was 1,626,246,944 pounds; retained for home consumption, 1,342,314,176 pounds; exported, 283,932,768 pounds. The importation of raw wool was 668,817,315 pounds, of which 292,937,192 were exported and 375,880,123 pounds retained for consumption. The consumption of cotton in 1900 was 1,690,500,000 pounds; of wool, 616,000,000 pounds; of flax, 197,000,000 pounds. The value of cotton manufactures was £68,665,000; of woollens, £21,601,000; of linen, £5,867,000; total textile manufactures, £96,133,000. The imports of raw cotton in 1900 were 1,762,000,000 pounds, of which 216,000,000 pounds were exported. The supply of wool, hair, etc., was 821,000,000 pounds, of which 559,000,000 pounds were sheep and lamb wool, 30,000,000 pounds obtained from imported sheepskins, 141,000,000 pounds produced in the United Kingdom, 22,000,000 pounds imported goats' hair, and 69,000,000 pounds imported woolen rags; exports of foreign wool were 195,000,000 and of domestic wool 25,000,000 pounds, leaving for home consumption 601,000,000 pounds. The imports of flax and tow were 160,000,000 pounds, the home production 16,000,000 pounds, the exports 9,000,000 pounds, leaving 167,000,000 pounds for home consumption. The exports of cotton piece goods were 5,034,000,000 yards; of woollens, 173,000,000 yards; of linen, 155,000,000 yards; of cotton yarn, 158,000,000 pounds; of woollen yarn, 57,000,000 pounds; linen yarn, 16,000,000 pounds. The total value of cotton manufactures exported in 1900 was £69,700,000; of woollen manufactures, £21,700,000; of linen manufactures, £6,100,000; total textile manufactures, £97,500,000.

The total value of imports into the United Kingdom in 1900 was £523,633,486; exports of British and Irish produce and manufactures, £291,451,306; exports of foreign and colonial produce and manufactures, £63,099,288. The total value of the foreign commerce was £878,184,080, or £21 8s. 3d. per capita. The share of England in the total commerce of 1899 was 90.6 per cent., that of Scotland 7.9 per cent., that of Ireland 1.5 per cent. Of £485,035,583, the total value of imports in 1899, British possessions supplied £106,829,295, while £378,206,288 came from foreign countries. Of £264,492,211, the value of exports of British and Irish produce and manufactures, £87,597,468 went to British possessions and £176,894,743 to foreign countries. The im-

ports of live animals for slaughter in 1900 were £9,614,637 in value; of articles of food and drink free of duty, £178,513,847; of articles of food and drink paying duty, £27,242,421; of tobacco, £4,816,399; of metals, £33,186,303; of chemicals, dyes, and tanning substances, £5,768,374; of oils, £9,690,576; of textile materials, £65,971,462; of raw materials for various industries, £56,777,299; of manufactured articles, £91,310,487; of miscellaneous articles, £16,768,990; imports by parcel-post, £1,119,625. The domestic exports of live animals were £903,945 in value; of articles of food and drink, £13,612,364; of raw materials, £41,862,269; of yarns and textile fabrics, £102,230,983; of metals and metal manufactures, £45,422,986; of machinery and mill work, £19,621,557; of new ships, £8,608,153; of apparel and articles of personal use, £10,400,349; of chemicals and medicinal preparations, £9,271,510; of other articles manufactured or partly manufactured, £36,565,410; by parcel-post, £2,951,800. The importation of wheat was 16,031,800 quarters. The total imports of cereals, including flour, were 189,572,329 hundredweight; imports of potatoes, 8,903,534 hundredweight; of rice, 6,290,803 hundredweight; of hams and bacon, 7,443,918 hundredweight; of fish, 2,226,898 hundredweight; of refined sugar, 19,253,478 hundredweight; of raw sugar, 13,276,692 hundredweight; of tea for consumption, 249,792,086 pounds; of butter, 3,378,516 hundredweight; of margarin, 920,416 hundredweight; of cheese, 2,711,805 hundredweight; of beef, 4,322,738 hundredweight; of preserved meat, 804,471 hundredweight; of fresh mutton, 3,392,850 hundredweight; of the number of sheep and lambs, 382,822; number of cattle, 495,134; great hundreds of eggs, 16,881,838; proof gallons of spirits, 8,764,550; gallons of wine for consumption, 15,880,069. Of the wheat imports 10,135,200 hundredweight came from British possessions and 58,480,790 hundredweight from foreign countries, of which the United States provided 32,588,470, the Argentine Republic 18,524,000, Russia 4,421,500, Germany 1,828,300, Roumania 756,100, Turkey 131,200, and Chile 2,500 hundredweight, while of the British possessions Canada sent 6,337,600, Australasia 3,788,200, and India 9,400 hundredweight. The imports of flour were 21,542,035 hundredweight, of which 17,871,307 hundredweight came from the United States. Of the imports of tea 49.61 per cent. came from India, 35.20 per cent. from Ceylon, 11.99 per cent. from China, 1.84 per cent. from Dutch possessions, and 1.36 per cent. from other countries. The value of grain and flour imported in 1900 was £58,921,510; of raw cotton, £41,027,181; of meat, £36,152,710; of timber and wood, £27,877,443; of sheep and lamb wool, £21,836,184; of sugar, raw and refined, £19,274,491; of butter and margarin, £19,915,371; of silk manufactures, £14,291,242; of woolen manufactures, £11,472,231; of tea, £10,929,723; of flax, hemp, and jute, £10,028,379; of hides and leather, £8,792,934; of fruit and hops, £8,448,979; of iron manufactures, £8,307,421; of seeds, £7,550,462; of cheese, £6,853,317; of iron ore, £5,639,003; of eggs, £5,406,141; of copper, £5,276,859; of wines, £5,201,594; of tin, £4,359,133; of copper ore and regulus, £4,690,548; of lead, £3,319,574; of currants and raisins, £3,237,362; of coffee, £2,578,465; of zinc and zinc manufactures, £2,001,737; of pig and puddled iron, £1,461,332; of steel, £1,218,179. The exports of cotton yarn and manufactures and yarn were £69,775,339 in value; of coal and coke, £38,606,446; of iron and steel and manufactures thereof, £32,017,157; of woolen and worsted yarn and manufactures, £21,790,823; of machinery, £19,621,557; of chemicals,

£9,271,510; of apparel and haberdashery, £6,826,373; of linen manufactures, £6,215,301; of manufactured copper, £2,931,793; of hardware and cutlery, £2,139,423; of jute manufactures, £1,959,886; of linen yarn, £935,009; of jute yarn, £486,222. The exports of cotton fabric yarn were £62,032,313, and of cotton yarn £7,743,926; of woolen and worsted fabrics £15,665,250, and of woolen and worsted yarn £6,125,573. The total for iron and steel exports included £5,998,731 for pig iron, £1,541,058 for bar, bolt, rod, and angle iron, £3,202,251 for railroad iron of all sorts, £904,567 for wire, £3,978,376 for tin plates, £4,727,945 for hoops, sheets, and plates, £5,872,457 for cast and wrought iron of all sorts, £375,280 for old iron, and £5,416,492 for steel and mixed iron and steel manufactures.

The imports from British possessions and the exports to British possessions of British and Irish produce and manufactures in 1899 were:

BRITISH POSSESSIONS.	Imports.	Exports.
India.....	£27,740,503	£31,316,412
Australasia.....	53,327,846	22,526,194
British North America.....	20,730,107	7,347,142
South and East Africa.....	6,210,919	11,593,892
Straits Settlements.....	5,867,847	2,612,381
Hong-Kong.....	883,126	2,688,609
British West Indies.....	1,517,338	1,922,755
Ceylon.....	5,077,758	1,385,454
British Guiana.....	411,650	539,448
Channel Islands.....	1,689,548	1,056,646
West Africa.....	2,427,946	2,116,080
Malta.....	66,744	839,936
Mauritius.....	215,149	350,550
All others.....	662,823	1,301,969
Total.....	£106,829,295	£87,597,468

The values of merchandise imports from foreign countries in 1899, and of exports to them, of British and Irish produce and manufactures, were:

FOREIGN COUNTRIES.	Imports.	Exports.
United States.....	£120,081,188	£18,119,380
France.....	53,000,788	15,283,079
Germany.....	30,123,058	25,996,127
Netherlands.....	30,473,489	9,425,974
Belgium.....	22,861,967	9,836,165
Russia.....	18,711,168	11,720,333
Spain.....	14,572,954	4,634,087
Egypt.....	10,914,354	5,061,686
China.....	3,069,452	7,040,400
Brazil.....	3,959,854	5,389,540
Italy.....	3,637,096	6,985,916
Sweden.....	10,048,739	4,796,316
Turkey.....	4,916,499	5,240,501
Argentine Republic.....	10,942,349	6,210,729
Denmark.....	12,432,977	3,961,807
Portugal.....	3,172,258	2,100,126
Roumania.....	2,084,369	1,175,431
Chile.....	4,221,590	2,244,661
Japan.....	1,692,408	7,909,158
Norway.....	5,305,393	3,208,656
Java.....	272,358	2,165,252
Greece.....	1,460,855	1,155,915
West Africa.....	580,137	1,233,310
Austria.....	1,308,945	2,046,506
Peru.....	1,303,130	814,039
Central America.....	572,490	649,743
Uruguay.....	258,647	1,301,297
Canary Islands.....	839,104	634,275
Mexico.....	511,160	2,017,540
Philippine Islands.....	1,243,315	413,043
Colombia.....	574,021	668,986
Venezuela.....	45,267	490,840
Algeria.....	737,023	261,282
Morocco.....	500,714	634,546
Ecuador.....	175,501	403,425
Hayti and Santo Domingo.....	64,544	216,714
Tunis.....	205,182	219,563
East Africa.....	70,088	1,252,774
Persia.....	148,027	351,912
Siam.....	18,055	191,928
Bulgaria.....	16,496	226,012
Madagascar.....	31,059	37,541
French Indo-China.....	166,836	81,258
All other countries.....	1,081,384	2,884,743
Total.....	£378,206,288	£176,894,743

The imports of gold in 1900 were £26,190,873, and exports £18,397,459; imports of silver were £13,322,300, and exports £13,574,580.

Navigation.—The total number of vessels entered at the ports of the United Kingdom during 1899 was 359,821, of 105,188,504 tons; the total number cleared was 356,079, of 104,159,577 tons. This includes 292,416, of 56,312,586 tons, entered and 289,309, of 55,252,608 tons, cleared coastwise. The tonnage of vessels engaged in foreign trade entered at British and Irish ports during 1899 was 48,876,000 tons, of which 32,865,000 tons were British and 16,011,000 tons were foreign. The tonnage cleared in the foreign trade was 48,907,000 tons, of which 32,784,000 tons were British and 16,123,000 tons were foreign. The tonnage of vessels entered with cargoes from foreign countries was 36,226,000, of which 25,453,000 tons were British and 10,773,000 tons were foreign. The tonnage cleared with cargoes was 42,988,000, of which 28,968,000 tons were British and 14,020,000 tons were foreign. The total tonnage entered and cleared with cargoes was 79,214,000, of which 54,422,000 tons were British and 24,793,000 tons were foreign. With cargoes and in ballast the total foreign tonnage entered and cleared was 32,133,898 tons, and of this Norway had 7,442,597 tons, Germany 5,238,057 tons, Denmark 3,375,632 tons, Sweden 3,318,348 tons, the Netherlands 2,950,447 tons, France 2,535,136 tons, Spain 2,006,440 tons, Belgium 1,474,438 tons, Italy 1,087,806 tons, Russia 903,547 tons, the United States 569,979 tons, and Austria 413,229 tons. Of the total tonnage entered and cleared in the foreign trade London had 16,529,075 tons, Cardiff 13,420,355 tons, Liverpool 11,818,000 tons, Newcastle 6,170,720 tons, Hull 4,585,183 tons, Glasgow 3,612,934 tons, Southampton 3,122,453 tons, Newport 2,848,897 tons, Blyth 2,553,069 tons, Swansea 2,193,090 tons, Middlesbrough 2,099,409 tons, Shields 2,078,392 tons, Sunderland 1,949,076 tons, Grimsby 1,911,513 tons, Kircaldy 1,810,486 tons, Leith 1,795,726 tons, Grangemouth 1,534,851 tons, Harwich 1,436,695 tons, Manchester 1,196,382 tons, Bristol 1,151,221 tons, and Hartlepool 889,876 tons.

The number of vessels registered as belonging in the United Kingdom on Jan. 1, 1900, was 20,196, of 9,164,342 tons, of which 11,167, of 2,246,850 tons, were sailing vessels and 9,029, of 6,917,492 tons, were steamers. The number of vessels engaged in the home and foreign trade in 1899 was 15,197, of 9,246,634 tons, employing 244,135 men, of whom 36,064 were foreigners, exclusive of 33,805 Lascars. The total number of vessels belonging to the British Empire was 34,896 in 1899, of 10,602,199 tons. Of the vessels engaged in the home and foreign trade in 1899 the number in the home trade alone was 6,485 sailing vessels of 397,177 tons, and 3,295 steamers of 476,449 tons; and 178 sailing vessels, of 20,250 tons, and 338 steamers, of 308,898 tons, were engaged partly in the home and partly in the foreign trade, while 1,236 sailing vessels, of 1,700,548 tons, and 3,665 steamers, of 6,343,312 tons, were engaged exclusively in the foreign trade. The number of vessels built and first registered in the United Kingdom during 1899 was 1,245, of 749,414 tons, comprising 570 sailing vessels, of 45,510 tons, and 675 steamers, of 703,904 tons. The number of vessels built for foreigners was 241, of 199,596 tons, of which 53, of 4,973 tons, were sailing vessels and 188, of 194,623 tons, were steamers.

Railroads, Posts, and Telegraphs.—The total length of railroads open to traffic in the United Kingdom on Jan. 1, 1900, was 21,700 miles, of which 15,044 miles were in England and Wales, 3,480 miles were in Scotland, and 3,176

miles were in Ireland. There were 181 miles built during the year. The paid-up share and loans capital amounted to £1,152,317,501. The number of passengers carried during 1899 was 1,106,691,991, exclusive of holders of season tickets. The receipts from all sources were £101,667,065, of which £43,734,399 came from passengers and £52,116,399 from freight. The working expenses were £60,090,687, being 59 per cent. of the gross receipts. There were 1,177 miles of tramways on June 30, 1900, the receipts of which for the year were £4,075,352; number of passengers carried, 1,065,374,347; paid-up capital, £20,582,692; net receipts, £1,370,277.

The number of letters that passed through the British post-office during the year ending March 31, 1900, was 2,246,800,000, of which 1,908,900,000 were delivered in England and Wales, 196,890,000 in Scotland, and 141,100,000 in Ireland, being 55 letters per capita for the whole United Kingdom, 60 letters for England and Wales, 46 letters for Scotland, and 31 letters for Ireland. The number of post-cards carried during the year was 400,300,000; book packets, 702,800,000; newspapers, 163,400,000; parcels, 75,400,000; money orders, 12,087,459, for the total amount of £35,201,262, of which 10,292,890, for the amount of £30,505,351, were inland orders; the number of postal orders, 82,115,674, for £28,633,884. The telegraphs had on March 31, 1900, a length of 44,970 miles, with 329,660 miles of wire. The number of messages sent during the year was 90,415,123, of which 76,116,209 were sent in England and Wales, 9,387,975 in Scotland, and 4,910,939 in Ireland. There are 68,657 miles of long-distance telephone lines, and 16,189,156 conversations were held in the year ending March 31, 1900, from the post-offices, while the telephone company had 988 exchanges, in which 639,476,448 conversations were held. The postal revenue for the year ending March 31, 1900, was £13,394,335, and the expenses were £9,683,704, leaving a net revenue of £3,710,631. The total telegraph receipts were £3,460,492, and expenses £3,748,930, leaving a deficiency of £288,438, reducing the net postal and telegraph revenue to £3,422,193, from which should be deducted £298,888, the annual interest on the debt incurred for the purchase of the telegraphs from private companies in 1870.

The Session of Parliament.—The Parliament elected in October, 1900, met in extraordinary session in December purely for the purpose of sanctioning supplementary estimates for the expenses of the war in South Africa, and after a discussion of the war lasting two weeks the session was closed. The death of Queen Victoria on Jan. 22, 1901, necessitated the assemblage of Parliament, which held a formal session on the following day, when members of both houses who were present took the oath of allegiance to King Edward VII. After the delivery of tributes to the virtues of the deceased sovereign there was an adjournment till the middle of February. When the members of the Privy Council were sworn, King Edward declared his determination to be a constitutional sovereign in the strictest sense of the word. All civil and military officers under the Crown in the United Kingdom were continued in their functions, as has been the law since the reign of Queen Anne, and all officers in the colonies and dependencies, as was enacted in the reign of William IV. The King opened his first Parliament in person on Feb. 14. As provided by the bill of rights, he made the formal Protestant declaration, denouncing the doctrine of transubstantiation, and characterizing as superstitious and idolatrous the adoration of the Virgin Mary and invocation of saints and

the sacrifice of the mass as used in the Church of Rome, solemnly avowing that this declaration is made without equivocation or mental reservation, and without dispensation from the Pope. Various absurdities in ancient laws never repealed came to light in connection with the demise of the Crown. Under the law of Queen Anne, officials were retained for six months only, and ministers were required to seek re-election to Parliament. All come under the operation of the common law of master and servant, by which the contract of service is terminated by the demise of the master so effectually that officials appointed directly by the Crown, such as ambassadors, can not legally claim pay for the time that they have already served. Mr. Labouchere called attention to the anomaly in the House of Commons by saying that he spied strangers within the bar, designating the First Lord of the Treasury. Mr. Lowther, who temporarily occupied the chair, thought it was a point for courts of law to decide. The common law of master and servant does not apply to civil servants, because they receive their appointments from the ministry, nor to officers of the navy, because their commissions are not made out by the Crown; but it does to officers of the army, and it applies without any qualification in the British protectorates, where continuity of administration is peculiarly important. In practice the law has been disregarded. To bring the law into harmony with custom the Attorney-General drew up a bill providing that the holding of office under the Crown, whether within or without British dominions, shall not be affected, nor shall any reappointment be necessary by the demise of the Crown. The law was made to take effect from the last demise of the Crown. The ministers wished to bring in no debatable matter, and therefore left untouched the anomalies and uncertainties of the law as regards the vacation of seats in the House of Commons on appointment to offices under the Crown. On appointment to certain offices members must give up their seats in ordinary times, but they can go from one office to another and still hold them. Some members of Parliament defended the right of constituencies to express their opinion upon the acceptance of office by their representatives. The declaration against Roman Catholicism, originally framed under the influence of the Guy Fawkes scare, which the King would have to repeat in his coronation oath, was a more serious matter. It was regarded by Roman Catholics as offensive. Lord Herries moved in the House of Lords that a committee be appointed to consider and report upon the royal declaration. The Prime Minister, deploring the indecent violence of language in which the oath was formulated, consented to a joint committee of both houses, with the proviso that no modification of the oath should be considered that would diminish its efficacy as a security for the maintenance of the Protestant succession. Lord Portsmouth wished the denunciation of the doctrine of transubstantiation to be retained because it had invaded the Church of England. The question was widely discussed in the press and in meetings, and gave rise to much feeling. The committee reported in favor of expunging the words which describe the mass as superstitious and idolatrous. Roman Catholics objected to the reference to the adoration of the Virgin, because they do not adore the Virgin. Low Churchmen and Dissenters generally resisted any alteration in the declaration. Lord Grey and many other Protestant politicians were willing to abolish it altogether, as even in its modified form it was a gratuitous insult to 12,000,000 loyal British sub-

jects. The Archbishop of Canterbury complained that there were no bishops on the committee, and wanted the report sent back to the committee with some bishops added to it. The proposed new form in which the Roman Catholic doctrines mentioned are declared to be contrary to the Protestant religion was ridiculed by Earl Grey because the Pope himself might subscribe to such a truism. The law excludes Roman Catholics from the throne, and the real guarantee for the Protestant succession was held to be the determination of the people of the country not to permit the ascendancy of a foreign organization; still an oath was considered necessary by most Englishmen as a test by which the title of any given candidate for the succession must be established or invalidated. The form finally embodied in the bill that was presented in the House of Lords by the Government left out the reference to Mariolatry to which Roman Catholic peers objected, and added the words "in which I believe" after the words "are contrary to the Protestant religion." The Catholics still were not contented, while among the Protestants of the stricter sects an agitation was kindled that was ominous for the fate of the bill in the House of Commons; therefore the Government dropped it after it had passed the Lords. A royal titles act, introduced after consultation with the Governments of the colonies, gave authority to the King to alter the royal style and titles as might seem fit with a view to the recognition of the British dominions beyond the seas. The form proposed to be assumed by the new sovereign is Edward VII, by the Grace of God of the United Kingdom of Great Britain and Ireland and of all the British Dominions beyond the Seas King, Defender of the Faith, Emperor of India. Whether the title Defender of the Faith shall be retained was a question to be considered. It was conferred by Pope Leo X on Henry VIII, who wrote a book to refute Luther, and when the same monarch was subsequently excommunicated and declared infamous by Paul III this title was not expressly revoked. It was adopted by Elizabeth, and has been borne by all the Protestant British monarchs.

In the speech from the throne the Government measures promised were one for increasing the efficiency of the military forces, one changing the constitution of the Court of Final Appeal in consequence of the increased resort to it, resulting from the expansion of the empire during the last two generations, one amending the law of education; and if time allowed, legislation for regulating the voluntary sale by landlords to occupying tenants in Ireland, for amending and consolidating the factory and workshops acts, for improving the administration of the law respecting lunatics, for amending the public health acts respecting lunatics, for amending the public health acts in regard to water-supply, for the prevention of drunkenness in licensed houses or public places, and for amending the law of literary copyright. The war in South Africa was said to be not entirely terminated, but measures had been taken to enable the troops to deal effectually with the forces by which they were still opposed; the fruitless guerrilla warfare of the Boer partizans entailed a regrettable loss of life and expenditure of treasure, and until they submitted it would be impossible to establish in those colonies institutions which will secure equal rights to all the white inhabitants and protection and justice to the native population. Credit was given to the Indian troops and the British naval forces for having largely contributed to the release of the

besieged in the Legations at Peking. The opening of the first Parliament of the Commonwealth of Australia by the Duke of Cornwall was mentioned, and his intended visit to New Zealand and Canada. The raising of fresh contingents for South Africa by Canada and the Australasian colonies, the success of the Ashanti expedition, and the alleviation of the suffering and mortality caused by drought in India through a seasonable rainfall were noted as subjects for rejoicing. Care had been taken to limit expenditure, yet the naval and military requirements of the country and the South African war necessitated an inevitable increase in the estimates. The demise of the Crown rendered necessary a renewed provision for the civil list, the King placing unreservedly at the disposal of Parliament the hereditary revenues of the Crown that had been so placed by his predecessor. In referring to the death of the late Queen at the opening of the speech, the new monarch pledged himself to walk in her footsteps. The Government having been strengthened by its renewed mandate from the people and possessing an overwhelming majority, while the Opposition was divided on the war policy and disorganized, ministers were careless, and their party lacked discipline to such an extent that the ministerial majority frequently sank to a perilously low point, and on an important amendment to the factory bill the ministry was actually defeated. The Radicals and the Irish Nationalists, whose alliance had been avowedly dissolved, were encouraged by this circumstance to join forces again and to attack the Government on its conduct of the war and its failure to make peace. Acrimonious debates on these subjects took up most of the time of Parliament, though when the house divided on these questions a large section of the regular Opposition voted with the Government. Sir Henry Campbell-Bannerman insisted that the Government was wrong in demanding unconditional surrender, that the Boer leaders would accept terms proper to be offered to freemen. The burning of farms as a military measure was denounced by Liberals in general. Mr. Dillon's motion condemning the conduct of the war as disgraceful and dishonoring to a nation professing to be Christian was not approved by Liberals, and mustered only 91 votes against 243. Mr. Chamberlain and Mr. Balfour took a firm stand against granting the least shred of independence to the Boers, though whenever they laid down their arms they should be leniently treated. Besides farm-burning, the destruction of all stock and stores accessible to the Boers, the employment of armed natives, the executions for treason, the suspension of constitutional rights in Cape Colony, the threats of retaliation against the enemy still in the field, and above all the concentration of Boer non-combatants in camps of detention, were vigorously denounced, yet Mr. Lloyd-George's motion protesting against the concentration camps obtained only 134 votes against 253. Mr. Redmond hoped that the Boers would be strengthened in their resistance until they separated South Africa from the empire that deluged it in blood. The conciliation of those in the field was the means to bring the war to an end that Sir Henry Campbell-Bannerman, the nominal leader of the Opposition, proposed, and Mr. Chamberlain was held responsible for the failure of negotiations with Botha. The futile proclamation announcing that Boers who did not surrender before Sept. 15 would have their property confiscated and be banished was shown by Sir William Vernon Harcourt to be contrary to public law, yet Mr. Asquith approved the contention of Mr. Chamberlain that the Boer

fighters were to be treated as bandits. The division in the Liberal ranks resulted in the formation of the separate faction of Liberal Imperialists, led by Mr. Asquith, who was Sir Henry Campbell-Bannerman's deputy in the leadership of the main party, and who was supported in his revolt by Sir Edward Grey and Sir Henry Fowler. The differences of the two sections could not be composed, and the return from his retirement of Lord Rosebery to the leadership of the whole party seemed the likely outcome when the Boer resistance should be finally broken and the period of reconstruction in South Africa at hand. A grant of £100,000 to Lord Roberts was opposed by few except the Irish compatriots of the distinguished soldier. The King's civil list was fixed at £470,000 a year, with an annual allowance of £70,000 to the Queen if she should survive her husband, and payments calculated according to previous precedents to the Duke of Cornwall and York and the King's daughters, no account being taken of the revenues received by the King from the Duchy of Lancaster and by the heir apparent from the Duchy of Cornwall. Mr. Labouchere, Mr. Keir Hardie, and the Irish Nationalist leaders mustered 60 votes against this provision for the royal family.

The financial proposals of the Government, army reform, and the condition of the navy were, next to the war, the subjects most discussed. The ordinary expenditure on the army and navy had doubled in ten years, and the expenses in South Africa made it quadruple. The army cost more than any other except the mammoth army of Russia; yet it had been found deficient as a fighting machine, and Mr. Brodrick's reform proposals were regarded as illusory, and the addition of 117,000 men to the former strength of 563,000 as fictitious. Slight and ineffective as the reform seemed to be, the cost of the army amounted to about as much as the naval budget, and the traditional naval policy of the Government suffered a relapse in the stress of the military perplexity. Mr. Winston Churchill took up the note of warning that his father, Lord Randolph Churchill, had emphasized by the sacrifice of his public career. Experienced statesmen had similar fears, and Mr. Balfour promised that, whatever was done for the army, the navy should not be neglected. In the voting on the finance bill the Cabinet carried the proposal for a loan of £60,000,000 by a majority of 69, the duty of 4s. 2d. a hundredweight on sugar by one of 60, the coal duty by 44 majority. Trifling concessions were made by Sir Michael Hicks-Beach in regard to both the coal and the sugar duty. The Nationalists moved to exempt Ireland from the main provisions of the bill. Mr. Morley and Sir William Harcourt admitted that, since the war was so popular, it was right that the masses should bear their share of its cost. The majority on the third reading of the bill was 170.

The question of establishing a final Court of Appeal for the empire was referred to a colonial conference, the majority of whose members were opposed to any drastic changes in the composition of the existing court, the Judicial Committee of the House of Lords, though they made suggestions for strengthening and improving that tribunal, which form the basis of further consultations with the governments of the colonies.

The question of educational reform was one which the Government could no longer evade, its own carelessness having led to legal complications that must be straightened out. Schemes for improving both primary and secondary education have been put forward in every succeeding session

of Parliament, but the Conservative Government, having resigned the matter largely into the hands of the clergy at the outset, was unwilling to acknowledge responsibility. A judgment of the courts in the Cockerton case showed that the school boards had illegally invaded the domain of secondary education, making legislation necessary. The decision was that school boards can not employ funds derived from the school rates for giving instruction that is not elementary, or instruction to persons who are not children. Sir John Gorst introduced a makeshift bill, disappointing and inadequate, which was finally abandoned on the ground that there was not sufficient time to pass it through all the stages. The principle was affirmed that in secondary education the school boards, elected on narrow local or sectional issues, were not fitted to exercise the controlling authority, which should be entrusted rather to a body selected for general intelligence and administrative capacity on some such basis as the county councils are selected. The Liberal Opposition, urged by their Non-conformist supporters and stimulated by a popular agitation, protested against such a principle, and championed the claims of the school boards. The Government brought in a second bill of a single clause, and under the ten-minute rule pressed it through, in spite of the objections of the Opposition and a minority of its own party. The bill gives to county and borough councils control of schools in which science and art are taught beyond the elementary grades and of evening and continuation schools for pupils over fifteen years of age, and legalizes for a year the continuation of the existing schools and their support out of school rates by agreement between school boards and the councils. A bill authorizing the laying of a Pacific cable in cooperation with the colonies was passed in the teeth of vigorous Irish opposition. The agricultural rating act was renewed, but in deference to the Liberals its duration was limited to four years. A new act regulating factories and workshops was passed, in which the ministers were compelled by an adverse vote to change the hour for closing on Saturdays from one to twelve o'clock, and by threats of Irish resistance to leave out an important clause affecting laundries, because Mr. Ritchie proposed to bring under the operation of the factory act laundries conducted by religious societies for charitable purposes as well as ordinary laundries. The two-shift clause, on which the previous bill was wrecked, was omitted, also a clause dealing with overtime in certain trades. Dangerous trades are to be determined by the Government without arbitration. A beer bill was introduced by a private member in consequence of the popular alarm caused by the fatal poisoning of nearly 100 persons in Manchester by beer containing arsenic. This arsenic was traced to the sulfuric acid used in the preparation of glucose, one of the constituents of light beer made from rice. The friends of British agriculture asked for a measure prohibiting brewers from using any materials other than malt and hops. It was argued on the other side that foreign agriculturists would benefit by such a restriction, British barley not being the best for malting purposes, and that the public would be deprived of a beer which suited the taste and the pocket of the multitude, and which by a proper inspection of its materials could be rendered as safe and wholesome as that brewed from malt and hops alone. The Government bill did not prohibit the use of substitutes, but provided that beer made from barley, hops, and yeast shall be served when customers call for malt beer, and

that all other kinds shall be sold as part malt beer; but hop substitutes, being innocuous and difficult to detect, are prohibited. To please the Protectionists of the school of Mr. Chaplin, who would be glad to have the corn duties reimposed, the Government ordered that only British beef should be supplied to the army in Great Britain, an order that could have no appreciable effect on American beef exports. The Irish, although active and aggressive, extracted no legislation from the Government. Mr. Balfour expressed approval of the project for an Irish Catholic university, and a royal commission was appointed to inquire into the state of higher education in Ireland outside of Trinity College. A new Irish member drew attention to the Irish language question by attempting to address the House in Erse until he was checked by the Speaker. Subsequently Mr. Wyndham referred sympathetically to the aims and efforts of Irishmen to revive and cultivate their ancient language. He brought upon himself, however, the reproaches of the Irish party when the Government seized Mr. O'Brien's Dublin newspaper for libeling the King and broke up Irish Land League meetings in Sligo and other parts of the country. A resolution was offered for the purchase of Irish railroads by the state. Mr. Redmond obtained 140 votes for a motion in favor of the compulsory sale of lands in Ireland. The Irish members contended that Ireland should not be compelled to contribute money for a military system she abhorred, and Mr. Claney's motion to that effect obtained 102 votes. When Irish members refused to vote on the education estimates in which Ireland had no interest they were named by the Speaker and removed by the police. A rule was subsequently adopted suspending for the remainder of the session any member whose refusal to obey the Speaker's order to withdraw is carried so far that it would necessitate a resort to force. Another new rule enables the Government to carry in batches votes in supply that remain outstanding after the expiration of the allotted days. The Irish members forced upon the house two controversies with newspapers for breach of privilege. On the last day of the session a London editor who had charged the Secretary for War with partiality in the communication of news was called before the bar to apologize.

The trial before the House of Lords of Earl Russell for bigamy was an antiquated pageant which served to call attention to the senselessness of the surviving privileges of the nobility. The deceased wife's sister bill was read a second time by a majority of 279 to 122, but went no further. Other measures offered by private members, such as a cremation bill, met with a similar fate. Mr. Pirie carried through a Scotch education bill that was approved by the leaders on both sides of the house. The pure bill was read a second time by a large majority, and then turned over to a standing committee. Mr. Strachey's outdoor relief bill passed through the Commons, but was rejected in the Lords for financial reasons. The Bishop of Winchester offered a licensing bill which the Government changed materially and let fall after carrying it through the House of Lords. The bill as amended provided that any person convicted as a habitual drunkard who attempts within three years of such conviction to purchase intoxicating liquor should be liable to a fine of 20s. in the first instance and 40s. afterward, and a licenseholder knowingly allowing intoxicants to be sold to such a person to a fine of £10 for the first and £20 for each subsequent offense; that any one found drunk in charge of a child shall pay

208.; that drunkenness either of a husband or a wife is ground for separation. Another bill was intended to prevent evasions of the law prohibiting the sale of drink during certain hours on Sunday except to travelers. The bill proposed that only certain selected houses should have the privilege to sell to travelers, paying an extra license fee therefor, and that no traveler should be served within 6 miles from his home, instead of 3 miles as before, and if traveling by rail, not within 25 miles. The bill forbidding the sale of liquors to children was not sacrificed with other incomplete legislation, and was finally passed after it had been greatly altered by the standing committee. Any license-holder who serves intoxicating liquor to a child apparently under the age of sixteen years for consumption either on or off the premises is liable to penalties. The act is designed to save children from the contamination to which they are exposed when sent to fetch beer or other liquor from public-houses. The law relating to youthful offenders was amended in such a manner as to prevent the imprisonment of very young children.

Parliament was prorogued on Aug. 17. In the King's speech the conquest of the South African republics was said to have progressed steadily and continuously, although the difficulty and extent of the country had caused military operations to be protracted. The barrenness of the session in legislative results was excused on the plea that the attention of Parliament had been taken up by the provisions made necessary by the special circumstances of the year—the demise of the Crown, the continuance of an arduous war, and the necessity of raising fresh revenue by a wider range of taxation. While providing for the heavy expenditure of the war, Parliament had further made provision for the increase in many important respects of the efficiency of the naval and military forces of the empire. The emergency education bill, vesting in local authorities the superintendence of important departments of education, was described as a measure intended to prepare the way for further reforms, as was understood by the Liberals when they wished the authority conferred by the bill to be vested in the Education Department, and defended the school boards against the depreciatory strictures of Sir John Gorst. Of about 300 bills submitted to Parliament only 40 became law, a third fewer than the average for ten years, fewer than in any session of recent times. Except the sale of liquor to children act and the Scotch education act the only act of a private member that went through was Lord Windsor's libraries act.

Dependencies.—British colonies are of three principal classes, the Crown colonies, in which the Government is exercised by imperial officers instructed from the Colonial Office in London; colonies possessing representative institutions, in which the home Government retains the control of the executive; and colonies having responsible government in which the right of veto over legislation remains vested in the Crown, but is exercised only for urgent imperial reasons. The imperial Government expends about £2,000,000 a year on the colonies, mainly for the maintenance of naval defenses and military garrisons. The military forces maintained in the colonies in 1900 comprised 60,079 men, of whom 5,450 were stationed at Gibraltar, 10,817 in Malta, 135 in Cyprus, 15,514 in Cape Colony and Natal, 3,576 in Mauritius, 723 in St. Helena, 1,871 in Sierra Leone, 1,782 at Halifax, 320 at Esquimaux, 3,067 in Bermuda, 1,778 in Jamaica, 1,538 in Barbados and St. Lucia, 1,778 in Ceylon, 1,794 in the Straits

Settlements, 3,494 at Hong-Kong, 1,279 at Wei-Hai-Wei, and 1,130 elsewhere, not including 4,411 in Egypt and the British army in India, numbering 73,484 officers and men. Ceylon, in the year ending March 31, 1901, contributed £123,800, Mauritius £22,200, Hong-Kong £51,600, the Straits Settlements £87,200, Malta £5,000, and Natal £4,000 in aid of imperial military expenditure, while the West African colonies gave £10,000 for military expeditions, and Canada £10,000 for military expeditions and £21,000 for the Esquimaux fortress.

Gibraltar is a Crown colony and a military and naval fortress at the entrance of the Mediterranean, over which a military officer is invariably appointed Governor, Sir George Stewart White in 1901. The revenue in 1899 was £59,954; expenditure, £59,520. The tonnage of vessels entered in 1898 was 4,328,859, of which 3,241,492 tons were British. A naval dockyard is being constructed, enclosed by three moles, with two or three new graving docks, 850 feet, 550 feet, and 450 feet in length, and a deep harbor 260 acres in extent. The works were begun in 1893, and in 1896, when Mr. Goschen had succeeded Earl Spencer as First Lord of the Admiralty, the plan was extended so as to include large workshops and a set of storehouses, the whole to cost £4,500,000. The moles have been completed, one of the docks also, one of the other docks was far advanced, and the workshops were nearly done when the work, except the parts already contracted for, was stopped early in 1901. Thomas Gibson Bowles had pointed out in Parliament that modern siege-guns posted on the neighboring heights could destroy everything. The Earl of Selbourne, First Lord of the Admiralty, appointed a committee in which Mr. Bowles was associated with the naval and military commanders and an eminent engineer. This committee reported in favor of a harbor on the eastern side of the rock, enclosed within two moles nearly half a mile long, sheltered from the Mediterranean storms by a heavy sea mole of three times their length, connected by a tunnel through the Rock with the western harbor, which would not be abandoned, but used in peace time as far as it was completed or so near completion that it would be better to carry it out, stores and munitions for war to be kept in chambers excavated from the tunnel, and the coal supply in the eastern harbor, which should have a graving dock of capacity adapted to the heaviest battleship at the maximum draught at which she could float after severe damage in action, with workshops and storehouses equal to any demands. This harbor is estimated to cost £5,200,000, and it can not be built in less than ten years, because the sea is so rough that work can go on only half the time. It is less exposed to land fire, though more open to attack from the sea. It is doubtful whether the sea mole can be built so as to last, or even built at all. If it takes too long, the second dock on the western side will be carried to completion, as it is better to have a dock with risks than no dock at all. The discussion alarmed the Spanish Government, which feared that England might covet the neighboring heights commanding the costly unfinished harbor. The Spanish military authorities took measures to guard against a surprise. Even if the docks on either side of the Rock are not available in war time, they will contribute to the successful termination of a war by the aid they give during peace to the efficiency of the Mediterranean and Channel squadrons.

Cyprus is Turkish territory administered by Great Britain under a convention. The High

Commissioner is Sir William F. Haynes Smith. The area of the island is 3,584 square miles, with 209,286 inhabitants, of whom 47,926 are Mohammedans and the rest Orthodox Greeks. The revenue in 1900 was £200,638, and expenditure £134,682. The only debt is an advance of £314,000 made by the British Government in 1899 for railroads and harbor and irrigation works. The products are wheat, barley, olives, wine, cotton, carobs, silk, linseed, cheese, wool, and hides. The imports in 1900 were valued at £289,962, and exports at £264,851. Of the revenue £54,221 were derived from tithes, £35,662 from the property tax, £30,571 from customs, and £28,300 from excise. Of the expenditures the heaviest items were for police and public works. Since the British occupation revenue has exceeded expenditure, but the surplus and over £700,000 more contributed by the British Government was required to pay the Turkish tribute of £92,799 and 4,000,000 okes of salt. Live animals and foodstuffs constitute two-thirds of the exports, which go to Great Britain, Turkey, Egypt, and France, while the two former supply the bulk of the imports. The product of wheat in 1900 was 1,500,000 bushels; of barley, 2,000,000 bushels; of wine, 3,750,000 gallons, of which 1,250,000 gallons were exported; of brandy, 241,000 gallons.

Malta has been the base for the repair and refitment of vessels of the British Mediterranean squadron, but much of this work has been transferred to Gibraltar. The island has an area of 117 square miles. The revenue in 1899 was £354,265; expenditure, £351,354. The Governor in the beginning of 1901 was Lieut.-Gen. Sir Francis Wallace Grenfell. He was succeeded by Lord Congleton. Cotton, oranges, figs, and honey are the chief products, and there are manufactures of matches, cotton goods, and filigree work. The number of vessels entered in 1899 was 3,560, of 3,297,712 tons; cleared, 3,560, of 3,292,942 tons. Parliament voted £1,000,000 in 1901 under the provision for naval and military works to build a needed breakwater. Malta has been a British colony over a hundred years. The people voluntarily accepted British sovereignty, and have always claimed the right of self-rule, which England has not admitted, the island being primarily a naval and military station. In 1887 a Constitution was conferred which gives to a limited class, estimated at 10 per cent. of the population, the right to elect members to the Council of Government, which has control over expenditures. The elected members having refused to agree to new taxes which the British Government decided to impose in Malta, the taxes were decreed by an order in Council. This angered the people of Malta, who protested that they could pay no higher taxes, their former wealth having decayed under the military government, which was constantly becoming harsher and more grinding. An order in Council substituting the English language for the Italian as the official language of the country stirred up a deeper and more universal feeling of resentment and indignation. In meetings held on May 5 and June 2, 1901, the people of all classes showed a unanimous sentiment, both against the imposition of new taxes so long as Malta is deprived of the right of self-rule in local affairs and against the abolition of Italian as the language of government and of the courts. Malta, it was contended, on the occasion of its self-cession, received from the King of England a solemn promise that the rights of the Maltese would always be respected, and among these rights the maintenance of the Italian language in its ancient position was considered to be one of the most

vital. The change of the official language has been in contemplation for some years. In 1899 a deputation was sent to London to protest against the substitution of English for Italian, which was coupled in the minds of the people with a supposed plan to wean them from the Roman Catholic faith and make Protestants of them. They were greatly agitated in 1896 by a decree legalizing mixed marriages and marriages by Protestant clergymen, against which the Holy See protested. The native clergy were greatly incensed at the adoption of English as the official language, which will not go into full effect till after the end of fifteen years, and all the educated class, who use the Tuscan tongue, resisted the change with equal heat and earnestness, and to the astonishment of the English the common people were not less wrought up about the matter. It was expected that the poorer classes, who speak Maltese, a mixed patois which is not exactly Italian, which the English are prone to believe is rather a variety of Arabic, would welcome a change that would wipe out one of the social distinctions between them and the aristocracy. They are so eager to learn English, which in trade at home and when they seek their fortunes in foreign countries is more useful to them now, that in the schools, in which they choose what foreign language they will take, 97 take English where 3 select Italian. In 1899, when an English officer, Col. Hewson, brought the question to a test by refusing to sign depositions written in Italian on the ground that he did not understand the language and was consequently sent to jail for contempt of court, Mr. Chamberlain announced the decision of the Government to make the English language optional in all the courts, and to insist that summonses, warrants, and the like served on English-speaking persons should be written in English as well as Italian. An order in Council gave British subjects not born or naturalized in Malta a right to use the English language in proceedings against them. In 1901 an order in Council announced the abolition of Italian as the official language and the sole use of English after a fixed period. When mass-meetings were held and petitions were addressed to the British sovereign, Government, Parliament, and people, and all the Maltese seemed to be of one mind and to regard what the Foreign Office represented to be a reform as a blow at the existence of the Maltese as a distinct people, Mr. Chamberlain supposed that they were misled by the false representations of aristocratic ringleaders who desired only to preserve the ascendancy of their caste. The elected members of the Council of Government, acting in conjunction with a national committee that had been formed, framed a petition to the King on Aug. 8 protesting against the additional taxation that Mr. Chamberlain had announced on July 30. Two days later a popular demonstration took place in which the British flag was torn down and police and soldiers were called out to curb the excesses of the multitude. The elected members of the Council refused to sanction the expenditure of any public money if the Maltese were to be taxed without representation, and to have English foisted on them in the place of their own official language. Mr. Chamberlain had gone so far that he was unwilling to recede, and saw no solution of the deadlock except to legislate for the colony by means of orders in Council. If the elected members of the local Government should persist in their attitude, he suggested the abrogation of the Constitution of 1887.

Aden, the chief coaling station on the Suez

Canal route to India, is a volcanic peninsula, 75 square miles in extent, while the island of Perim has an area of 5 square miles. The Political Resident at the head of the Government is commander of the garrison. The imports in 1900 were 38,099,806 rupees by sea and 2,750,444 rupees by land, besides 3,414,306 rupees of precious metals; exports, 30,460,258 rupees by sea and 1,140,755 rupees by land, besides 3,643,502 rupees of precious metals. The port was visited during 1900 by 1,224 merchant steamers, of 2,467,665 tons, and 1,687 native vessels, of 52,906 tons. The exports are coffee, gums, hides and skins, and tobacco, the produce of Arabia and the coast of Africa. Attached to Aden are the protected island of *Socotra* and the *Kuria Muria Islands*. Socotra has an area of 1,382 square miles, and produces dates, gums of various kinds, and butter. The *Bahrein Islands* are a British protectorate under a native sheik, from which pearls were exported of the value of £454,962 in 1899, the total value of exports being £654,238, and of imports £641,506.

British Borneo has an area of 31,106 square miles, with about 175,000 inhabitants. The Governor, Edward Woodford Birch in 1901, administers the country for the British North Borneo Company, and has jurisdiction over the island of *Labuan* and the recently annexed territory of *Tambunan*. The native sultanates of *Brunei* and *Sarawak* have also been taken under British protection. Tobacco of the Sumatra variety has been extensively planted in North Borneo, and there are numerous coffee plantations, besides a considerable and increasing number of pepper, coconut, hemp, and gambier plantations. The revenue in 1899 was £542,919; expenditure, £410,290; exports, £3,439,560; imports, £2,456,998. The imports of the sultanate of Sarawak were £3,281,609, and exports £4,476,006. The state of Sarawak, which has an area of about 50,000 square miles, and a population of 500,000 Melanaus, Malays, Dyaks, Kayans, Kenyahs, Muruts, and Chinese and other immigrants, is ruled by the Rajah Sir Charles Johnson Brooke, nephew of Sir James Brooke, who received a cession of the country from the Sultan of Brunei in 1842. Coal exists in large quantities, and gold, silver, antimony, and cinnabar are mined by the Chinese. There are valuable diamond-mines which by agreement with the De Beers Company of Kimberley have remained unproductive. The military force consists of 250 Dyaks under a British officer. The revenue, derived from opium, gambling, and arrack farms, exemption taxes from Malays and Dyaks, taxes collected from the Kayans, and import and export duties, amounted in 1900 to £915,966, having more than doubled in ten years, while trade has trebled. The imports amounted to £615,912, and exports to £686,586. The chief exports are pepper, sago, gutta-percha, gold, gambier, dried fish, and rubber. Sago is made into flour by Chinese in factories at Kuching and exported thence to Singapore. Timber is exported to China. Chinese settlers cultivate pepper, gambier, and sago. The native tribes raise rice and collect jungle produce. The Dyaks go all over Borneo and to Sumatra and the Federated Malay States in search of gutta-percha, which is growing scarce. The Melanaus have forests of sago-palms, which they preserve and cultivate. The Malays are the sailors and fishermen and the carpenters. Other trades are followed by the Chinese, who are also the merchants and the laborers on the plantations and in the mines. Tamils have lately been attracted to this country. Chinese colonies for the cultivation of rice have been planted with Government aid. Chinese capitalists of the Straits Set-

tlements are seeking investments in Sarawak, and Chinese merchants contemplate a line of steamers to Hong-Kong.

Ceylon has a legislative body in which the various races are represented. The Governor in 1901 was Sir Joseph West Ridgeway. The island has an area of 25,333 square miles and a population estimated in 1899 at 3,477,094. The tea plantations are cultivated by the labor of Tamils imported from the south of India. The revenue in 1899 was 25,913,141 rupees; expenditure, 24,952,460 rupees. The public debt was £3,445,839, raised for the railroads, 297 miles in length, and for the break-water and water-works at Colombo. The area planted to tea in 1898 was 424,856 acres, while 19,023 acres were planted to coffee, 864,296 to coconuts, 46,117 to cinnamon, 33,260 to cacao, 11,127 to tobacco, and 753,872 to rice and grain. The value of imports in 1899 was 111,992,349 rupees, and of exports 111,955,937 rupees. The exports of tea were 51,864,763 rupees in value; of plumbago, 22,255,400 rupees; of coconut kernels and fiber, 14,353,403 rupees. The tonnage entered and cleared in 1899 was 7,439,205. The *Maldiv Islands*, having a population of 30,000 Mohammedans, who are sailors and traders, are tributary to the Ceylon Government. The total population of Ceylon at the census of March 31, 1901, was 3,576,990, including 3,360 military, 4,104 seamen, and 4,913 prisoners of war. The coolie immigrants employed on estates increased from 262,262 in 1891 to 441,523 in 1901. The public expenditure of Ceylon, chiefly from loans, has recently been very heavy, 12,750,000 rupees being estimated for the financial year 1902 on the harbor works and graving dock at Colombo, three lines of railway, and irrigation works, all of which are expected to be completed by 1904. Drainage works and water-supply for Colombo are next to be taken in hand, and a railroad will be built from Colombo through a rich native cinnamon and coconut district to Chilaw. Attention is being given to the pearl oyster fisheries on the northern coast with a view to preserving and cultivating the oysters. The restriction of tea shipments from both India and Ceylon has had the effect of improving prices in the London market. Arabi Pasha and Ali Fehmy, the last of the Egyptian leaders who were exiled to Ceylon in 1883, departed in the summer of 1901. There were then already over 5,000 Boer prisoners confined in the camp at Diyatalawa. The depression in the price of tea has caused more attention to be given to other products. There were in 1901 under tea 393,000 acres; under cacao, 24,000 acres; under cardamoms, 7,000 acres; under rubber, 2,500 acres. Some cinchona was also planted. Coffee, which once covered 272,000 acres, occupied only 8,000 acres. The great native industries in coconut and other palms, cinnamon, and citronella grass take up a great area, and the Government is extending rice cultivation by restoring old irrigation works and constructing new ones. The population increased in ten years 19.4 per cent. The population of Colombo in 1901 was 154,279. The permanent population of the island, excluding soldiers, seamen, and prisoners, was 3,564,613, comprising 1,460,990 Singhalese, 873,580 Kandians, 950,844 Tamils, including immigrants, 224,066 Moormen, or Mohammedans, 11,242 Malays, 23,256 Burghers and Eurasians, 6,374 Europeans, and 14,264 others.

Hong-Kong, ceded to Great Britain by China in 1841, is the distributing point for British commerce with the far East. The Governor in 1901 was Sir Henry A. Blake. The area of the island is 29 square miles; population, 221,441, mainly

Chinese. The ordinary revenue in 1899 was £2,865,759; expenditure, £3,031,131. The public debt is £341,800, incurred for water-works, sanitation, and fortifications. The number of vessels entered during 1899 was 5,444, of 6,720,769 tons, exclusive of 22,566 junks, of 1,849,435 tons.

The *Straits Settlements* are a Crown colony, and the Governor, Sir Frederick Cardew in 1901, is also High Commissioner for the Federated Malay States, in which Sir F. A. Swettenham is Resident-General. The island of Singapore has an area of 206 square miles, besides which the colony includes Penang, Malacca, Province Wellesley, and the Dindings on the coast of the Malay Peninsula. The Federated Malay States under British protection are Perak, Selangor, Pahang, Sungei Ujong, and Negri Sembilan. There were 149,697 Chinese and 18,981 Indian immigrants in 1899. The population of Perak is 214,254; of Selangor, 81,592; of Sungei Ujong, 23,602; of Pahang, 57,462; of Negri Sembilan, 41,617. The revenue of the colony in 1899 was \$5,200,025; expenditure, \$5,061,013. Perak had a revenue of \$6,580,306, and the expenditure was \$5,441,692; Selangor's revenue was \$6,692,330, and the expenditure \$3,414,551; Negri Sembilan, including Sungei Ujong, had \$1,085,015 of revenue, and the expenditure was \$851,704; and the revenue in Pahang was \$375,350, and expenditure \$1,814,030. Rice, tapioca, sugar, and pepper are grown in Province Wellesley and Malacca and in some of the native states, which produce also Liberian coffee and gambier. The export of tin in 1899 from Perak was 18,960 tons; from Selangor, 15,185 tons; from Negri Sembilan, 3,700 tons. Tin is mined also in Pahang, where gold is obtained, and in Negri Sembilan and Perak. The export of gold from Pahang in 1899 was 18,295 ounces. Singapore is a center of trade for the islands of Malaysia as well as of the peninsula. The exports, besides tin, sugar, coffee, and pepper, include nutmegs, mace, sago, rice, tapioca, buffalo hides, rattan, gutta-percha, tobacco, gambier, India-rubber, copra, gums, and dyestuffs. The value of imports in 1899 was \$283,939,452; of exports, \$239,054,727. The chief imports, which were largely reexported, were rice of the value of \$22,666,810; cotton cloth, \$13,052,117; opium, \$12,142,831; fish, \$6,864,684; coal, \$5,955,577; tobacco, \$4,452,815; petroleum, \$2,393,442; tin, \$55,225,453; spices, \$13,657,479; gambier, \$5,542,938; gums, \$16,149,762; sago and tapioca, \$6,754,749; rattan, \$4,441,770; copra, \$6,904,420. The number of vessels entered during 1899 was 8,624, of 6,595,075 tons, not including 15,466 native vessels, of 598,195 tons; the number cleared was 8,635, of 6,591,935 tons, besides 15,653 native vessels, of 609,705 tons. The Mexican silver dollar was declared the legal standard of value for the colony by an order in Council issued on Feb. 2, 1895. The British dollar and the Hong-Kong dollar are legal tender. The commerce of the native state of Perak in 1899 was \$11,615,260 for imports and \$25,707,051 for exports; of Selangor, \$18,008,485 for imports and \$20,894,185 for exports; of Negri Sembilan, \$8,840,000 for both imports and exports; of Pahang, \$1,531,661 for imports and \$2,062,241 for exports. The immigration of Chinese in 1900 was 200,947, and of Indians 41,707, but the supply of labor is still below the demand. With the increase of trade the cost of living has risen enormously. Many Chinamen have made fortunes out of tin. The Government of the Straits Settlements revenue has increased, the opium and other monopolies having been let out at greatly increased rates. The revenue in 1900 was \$5,386,927, and the expenditure was \$6,037,084, the excess being due to

the Singapore and Kranji Railroad and the Penang pier that the Government is building. In spite of the wealth existing there, Singapore is one of the most backward cities in Asia. The Germans, who have increased their shipping in the East at a rapid rate, have profited by the growth of trade in the Malay peninsula, and have diverted a part of the trade of Singapore to Malacca. The total trade of the Straits Settlements in 1900 was valued at £28,250,000 for imports and £24,250,000 for exports. The trade of the Federated States reached nearly \$100,000,000 in silver, an increase of \$10,000,000 over the previous year, and exports exceeded imports by \$10,000,000. The revenue of the 4 states exceeded \$15,500,000, the duty on tin yielding \$7,000,000. There are 250 miles of railroad, 1,400 miles of telegraph, and in Perak irrigation works are being constructed at a cost of \$1,000,000 to benefit 60,000 acres. The population of the Federated States is 676,138, an increase of 258,371 in ten years. The supply of alluvial tin will be exhausted some day, and this consideration has prompted the Government to make experiments in planting Arabian coffee, Indian tea, cinchona, pepper, and South American rubber.

Mauritius has a Council of Government, composed of 8 official, 9 nominated, and 10 elected members. The Governor in 1901 was Sir Charles Bruce. The area of the island is 705 square miles, with a population estimated in 1899 at 379,659, containing only a small proportion of white creoles, who are diminishing in number. Besides Africans descended from former slaves or imported since as laborers, and the various mixed races, there were 3,079 Chinese and 261,739 natives of India, the majority of them Hindus, the rest Mohammedans. Port Louis, the capital, containing 52,517 inhabitants, has become an Asiatic town, and the sugar-plantations have been divided into small properties and acquired by Indians. The revenue in 1899 was 9,066,313 rupees, and expenditure 8,407,082 rupees. The debt of the colony was £1,192,184 in 1899. The value of the imports in 1899 was 19,096,212 rupees; exports, 24,745,029 rupees. The export of raw sugar was 23,044,657 rupees; of aloe fiber, 566,030 rupees; of rum, 154,812 rupees; of vanilla, 133,946 rupees. The number of vessels entered during 1899 was 272, of 337,369 tons; cleared, 275, of 339,187 tons.

Many small groups and isolated islands in the Pacific have at various periods been taken under British protection. The *Cook Islands* have been transferred to New Zealand. The *Gilbert Islands*, the *British Solomon Islands*, *Duff Islands*, *Santa Cruz Islands*, *Starbuck Island*, *Malden Island*, *Jarvis Island*, *Fanning Island*, *Palmyra*, *Baker Islands*, *Washington Island*, the *Ellice Islands*, the *Phoenix group*, the *Tokelau group*, *Dudzo Island*, the *Suvaroff Islands*, the *Manihiki group*, and *Ducie Island* are most of them coral atolls, producing coconut-trees in abundance, and some have valuable guano deposits. The recently annexed *Christmas Island*, about 50 square miles in extent, has rich deposits of phosphate which are worked by an English company employing 13 whites and 720 Indian coolies. *Pitcairn Island*, having an area of 2 square miles, is inhabited by 126 descendants of the mutineers of the *Bounty*, who govern themselves by their own Parliament, raise bananas, corn, arrowroot, fruits, coconuts, and poultry and pigs to supply passing vessels, but have little communication with the outside world.

St. Helena is a volcanic island in the south Atlantic, once important as a port of call on the Cape route to the East. Its area is 47 square

miles, and the population is about 4,000. The revenue in 1899 was £11,593; expenditure, £11,432; imports, £91,699; exports £4,592. *Tristan da Cunha, Goughs Island, Inaccessible, and Nightingale Island* are rocky isles in the Atlantic inhabited by descendants of British sailors. *Ascension Island*, northwest of St. Helena, is a coaling station and sanitarium for the war vessels on the west coast of Africa. The *Falkland Islands*, near the Straits of Magellan, have an area of 6,500 square miles and 1,759 inhabitants, British settlers who export wool, hides and skins, and tallow. The revenue in 1899 was £13,219; imports, £73,978; exports, £139,203.

The *Bermudas* are a group of 360 small islands in the north Atlantic, 580 miles east of Cape Hatteras, having a total area of 20 square miles and a population in 1899 of 16,423 persons, of whom 6,282 were whites and the rest colored. The Governor in 1901 was Gen. G. Digby Barker. The revenue for 1899 was £39,955, and expenditure £39,243; imports, £394,388; exports, £119,151, consisting of early onions, potatoes, and tomatoes sent to the American market, and lilies for Easter decoration. The revenue in 1900 was £40,124; expenditure, £47,532; debt £49,000. The imports were £397,136, 63 per cent. coming from the United States and 27 per cent. from Canada; exports, £93,769. About 3,000 Americans visit Bermuda in the winter. On an average 3,000 imperial troops are stationed there. In 1901 many Boer prisoners from South Africa were brought to this colony. The tonnage of vessels entered and cleared in 1900 was 729,832.

British Guiana has a legislative body called the Court of Policy, composed of 7 official and 8 elective members, to which 6 more elective representatives are added to form the combined court, which decides questions of taxation and expenditure. The Governor in 1901 was Sir Walter J. Sendall. The area of the colony is about 120,000 square miles, with a population of 278,328, including 2,533 Europeans, 99,615 Africans, 3,714 Chinese, and 105,463 East Indians. There were 8,500 births and 9,706 deaths in 1898. The revenue in 1899 was £538,838, and expenditure £525,542. The sugar estates occupy only 69,814 acres, and very little other land is cultivated. The gold-mines produced 112,464 ounces in 1899, and 112,823 ounces in 1900, against 125,080 ounces in 1898 and 126,702 ounces in 1897. The value of imports in 1900 was £1,318,701; exports, £1,927,960. Steam dredging for gold has been begun on the Barima river, and if successful will be attempted on the Cuyuni and other rivers. The output of gold in the year ending June 30, 1901, was 109,207 ounces. There were 15,563 laborers employed in the gold-mines. Diamond mining was begun in 1900, mainly in the Mazarini fields, which are more extensive than was first supposed, the diamonds occurring under similar conditions to the Brazilian deposits. The planters are opposed to the development of the interior, fearing that it will draw coolies away from the coast. Jute and rice are new industries. Ochre and cement are being developed. The forests are full of valuable timber. Sugar, the only product cultivated for export, does not occupy more than 70,000 acres, and the whole cultivated area is only 352,000 acres, not a sixtieth of the fertile area.

British Honduras has an area of 7,562 square miles and 35,226 inhabitants, of whom 501 are whites and the rest negroes and colored. The Governor in 1901 was Col. Sir David Wilson. The revenue in 1899 was £51,535, and expenditure £53,994. The value of imports in 1899 was £212,237, and of exports £263,090. The export of ma-

hogany was 6,499,168 feet; of logwood, 24,098 tons. Bananas, plantains, and coconuts are shipped to New Orleans. Some coffee is grown, and there is a transit trade in vanilla, rubber, coffee, and sarsaparilla. United States gold was adopted as the money standard in 1864, but the currency in circulation is mostly Government notes and silver.

The principal colonies and dependencies of the British Empire are elsewhere described (see AUSTRALASIA, CANADA, EAST AFRICA, INDIA, NEWFOUNDLAND, SOUTH AFRICA, WEST AFRICA, WEST INDIES).

GREECE, a monarchy in southeastern Europe. The legislative authority is vested in a single chamber called the Boule, composed of 207 members elected for four years by universal adult male suffrage. The reigning King is Georgios I, born Dec. 24, 1845, second son of King Christian of Denmark, elected King of the Hellenes on March 18, 1868, after the deposition of King Otto, with the approval of the protecting powers—England, France, and Russia. The heir apparent is Konstantinos, Duke of Sparta, the eldest son of the King and Queen Olga, daughter of the Russian Grand Duke Constantine, born Aug. 2, 1868, who married the Princess Sophia of Prussia, sister of the Emperor Wilhelm II. The Cabinet first constituted on April 14, 1899, was composed in the beginning of 1901 as follows: President of the Council and Minister of the Interior, G. N. Theotokis; Minister of Foreign Affairs, Athos Romanos; Minister of Worship and Education, S. B. Stais; Minister of War, Col. Nicolas Tsamados; Minister of Marine, Basil Boudouris; Minister of Justice, N. Karapavlos; Minister of Finance, A. N. Simopoulos.

Area and Population.—The area of the Hellenic Kingdom is 25,014 square miles, with a population of 2,433,806. Including the Greeks of the Turkish Empire, estimated at 4,000,000 in European Turkey, 2,000,000 in Asia Minor, and 550,000 in Crete, Cyprus, Samos, and other islands, the people of Greek nationality are believed to number about 8,750,000.

Finances.—The mediating powers which arranged peace between Greece and Turkey guaranteed a loan of 170,000,000 drachmas, exacting as the condition that the revenues from the salt, petroleum, matches, playing-cards, and other monopolies, the tobacco duty, the stamp-duty, and the import duties of the port of Piræus, should be assigned for the payment of interest on the external debt to an international commission consisting of representatives of Germany, Austria-Hungary, France, Great Britain, Italy, and Russia. Out of the loan a war indemnity of 93,930,000 drachmas was paid to Turkey, 31,350,000 drachmas were applied to the redemption of the floating gold debt, 2,440,000 drachmas went to settle other obligations, and 21,960,000 drachmas were given to the Government to meet the deficit of 1897, leaving about 20,000,000 drachmas available for balancing succeeding budgets. The revenue in 1897 was 98,461,708 drachmas, and the expenditure was 137,050,965 drachmas. In 1898 the revenue was stated approximately to be 107,085,658 drachmas, and the expenditure 101,988,039 drachmas. For 1899 the budget estimate of revenue was 107,085,658 drachmas, and of expenditure 103,418,273 drachmas. The estimate of revenue for 1900 was 22,856,000 drachmas from direct taxes, 40,482,000 drachmas from customs and excise, 20,327,400 drachmas from stamps and fees, 12,710,750 drachmas from monopolies, 4,439,690 drachmas from state property, 1,051,600 drachmas from sales

of state property, 1,942,142 drachmas from repayments and deductions, 472,000 drachmas from telegraphs, 440,000 drachmas from lighthouses, 42,000 drachmas from schools, 5,796,321 drachmas from various sources, and 1,646,946 drachmas from extraordinary sources; total, 112,206,849 drachmas. The expenditures for 1900 were estimated at 32,609,650 drachmas for the public debt, 117,300 drachmas for allowances, 185,000 drachmas for various obligations, 6,254,013 drachmas for pensions, 1,325,000 drachmas for the civil list, 538,620 drachmas for the Boule, 2,424,122 drachmas for the Ministry of Foreign Affairs, 6,363,679 drachmas for the Ministry of Justice, 16,266,061 drachmas for the Ministry of the Interior, 5,214,047 drachmas for the Ministry of Worship, 18,308,586 drachmas for the Ministry of War, 7,824,948 drachmas for the Ministry of Marine, 2,157,220 drachmas for the Ministry of Finance, 10,511,392 drachmas for collection of taxes, and 3,898,830 drachmas for various purposes; total, 114,088,468 drachmas. The revenue for 1901 was estimated at 115,734,159 drachmas, and the expenditure at 113,646,301 drachmas. The administration of the *régie* and the collection of the assigned duties is entrusted to a Greek company under the control of the International Commission.

In instituting the International Debt Commission the powers consented to a reduction of the rate of interest on the gold debt and arranged a plan of amortization. The gold debt on Jan. 1, 1900, amounted to 701,967,000 drachmas, the annual interest and amortization to 15,035,057 drachmas. The paper debt, including 93,775,975 drachmas of paper currency, amounted to 173,690,760 drachmas, requiring 5,083,500 drachmas for interest and amortization. The paper currency of Greece fluctuates in value, no coin having been put into circulation since 1884. Notes are 40 per cent. below par on the average. The National Bank is privileged to issue 88,000,000 drachmas. The amount in circulation on Jan. 1, 1901, was 140,500,000 drachmas, with only 1,900,000 drachmas of gold and silver to protect the issue, and no coin in circulation. The reduction of the issue in annual instalments has been decreed, beginning in 1900. The International Commission reported for the third year of its operations, ending Jan. 13, 1901, receipts amounting to 1,756,220 drachmas in gold and 54,539,811 drachmas in paper, and expenditures amounting to 1,359,917 drachmas in gold and 49,878,553 drachmas in paper. On Jan. 1, 1901, the gold debt had been reduced to 697,554,000 drachmas, the paper debt to 171,424,980 drachmas. The proceeds of the revenues assigned to the commission were 32,342,713 drachmas, not including the Piræus customs, which are handed over to the Government, being regarded as an additional guarantee. The revenues handled by the commission exceeded the fixed estimate by 3,442,713 drachmas, which with 1,073,617 drachmas realized as profit on the rate of exchange enabled the commission to augment the interest paid on the monopoly and funding loans by 4 per cent., and on the other groups by 2 per cent. The rate of exchange fluctuated between 149 and 173, the mean rate of 164 being 8 points higher than in 1899 owing to the exhaustion of the loan guaranteed by the powers, bad harvests, an adverse balance of trade, the decline of Greek credit as the result of the war with Turkey, and the excess of the forced currency. The currency, however, should in the opinion of the commission be withdrawn gradually, and not at once by means of a financial operation, which might involve the country once more in economic difficulties and create a new era of instability. The amount withdrawn

annually according to the plan that the commission put in force in 1900 is 2,000,000 drachmas, which it is believed can be increased in view of the unexpected growth of the revenue with the effect of improving the rate of exchange and, by showing that the Government is prepared to make sacrifices for the restoration of normal monetary conditions, Greek credit in general. The increase of the tobacco duty in March, 1900, caused a diminution of consumption and a loss of revenue, which the Government had to make good to the Debt Commission below a minimum agreed upon. The company having the monopolies is charged with the commission of administering those revenues unsatisfactorily, and introducing politics into the appointment of its *personnel*. The measures for the prevention of fraud and contraband traffic which the commission recommended were rejected by the Chamber. The Government in 1901 asked the Chamber to vote 2,500,000 drachmas a year for naval construction and 1,500,000 drachmas annually for 12 field and 12 mountain batteries and 60,000 Mannlicher rifles. The International Commission has agreed to a loan for the construction of the Piræus-Demirly Railroad, the service of which will be 3,763,512 drachmas a year, and for another loan to complete the line from Pyrgos to Kyparissa and Meligala in the Morea.

The Army and Navy.—The Greek army is in process of reorganization. The Crown Prince was appointed commander-in-chief with the rank of lieutenant-general by the law of April 6, 1900, which placed the army under his inspection. There are 3 divisions, containing 10 regiments of infantry, 8 battalions of *euzoni*, or riflemen, 3 regiments of cavalry, 3 regiments of field-artillery, and 1 regiment of engineers. The nominal peace strength in 1899 was 26,108 men, but the actual strength was about 10,000 less. Every Hellene is liable for service, and those who are not drawn pay a tax varying from 100 to 1,000 drachmas, and are enrolled in the reserve of the active army and trained for three months. The period of service is two years in the active army, ten years in the reserve, eight years in the National Guard, and ten years in its reserve. The nominal strength in 1900 was 62 officers in the Ministry of War and the general staff, 873 officers and 13,180 men in the infantry, 96 officers and 1,448 men in the cavalry, 216 officers and 2,584 men in the artillery, 101 officers and 1,381 men in the engineers, 380 officers and 479 men in the administrative services, 28 officers and 105 men in the military schools, and 139 officers and 4,108 men in the *gendarmerie*; total, 1,894 officers and 4,108 men, with 3,916 horses and 180 guns. The infantry have Gras rifles, the cavalry carbines of the same construction, and the artillery Krupp guns. The war strength of the active army is about 82,000 men, and of the National Guard 96,000 men.

The navy comprises 5 armor-clads, the principal ones being the French-built steel-belted cruisers Hydra, Spetsai, and Psara, of 4,885 tons, armed with 3 10.6-inch, 5 5.9-inch, 1 4-inch, and 4 9-pounder Canet guns, with 7 6-pounder quick-firers and numerous smaller ones. There are 7 large and 44 small torpedo-boats.

Commerce and Production.—Wheat, barley, and corn are the principal agricultural crops. The Zante currant is the most important product for export. The olive and the grape are cultivated extensively, and the crop of figs is important. Tobacco is raised also for export, and cotton is grown to some extent. Valonea from the native acorn-tree, a useful tanning material, is an important export. In accordance with the reten-

tion law of 1895 to regulate the supply of dried currants the Government retains 15 per cent. of each shipment, selling this portion to makers of wine and brandy, and turning the proceeds over to an agricultural bank, the special business of which is to assist the growers of currants. The law was extended for a further period of ten years in 1899, and in that year the bank was established with an initial capital of 3,500,000 drachmas, which will be augmented from the further proceeds of the sales. The currant crop of 1899 was 153,500 tons, of which 126,400 tons were left for export, but only 91,300 tons were exported. A deficient crop in 1900 relieved the depression. The crop of valonea in 1899 was 10,000 tons. The production of silk cocoons in Messenia, the only province where this industry is established, was 100,000 pounds. The important mining interests are in the district of Laurium, where the production was 306,625 tons of manganese iron ore, 134,384 tons of hematite ore, 23,710 tons of zinc ore, 15,749 tons of galena, 1,195 tons of dress lead and zinc ore, 3,000 tons of lead smokes, 2,100 tons of speiss, and 289,292 tons of inferior ore from which 18,360 tons of silver lead were obtained.

The total gold value of special imports in 1899 was 128,085,906 drachmas; of special exports, 94,665,611 drachmas. The imports of cereals were 35,081,749 drachmas in value; of textile fabrics and yarn, 20,827,756 drachmas; of timber and wood, 9,141,698 drachmas; of minerals, including coal, 8,910,480 drachmas; of hides, 8,715,618 drachmas; of fish and caviar, 6,631,106 drachmas; of metals and ores, 6,240,992 drachmas; of live animals, 5,567,781 drachmas; of chemicals, 3,803,693 drachmas; of sugar, 2,924,402 drachmas; of paper, 2,730,513 drachmas; of coffee, 2,483,731 drachmas; of glass and crockery, 2,100,203 drachmas; of rice, 1,893,038 drachmas; of colors, 940,293 drachmas; of other articles, 16,085,906 drachmas. The exports of currants were 38,007,954 drachmas; of ores, 23,860,014 drachmas; of wine, 6,480,924 drachmas; of tobacco, 2,826,871 drachmas; of olive-oil, 2,676,366 drachmas; of figs, 2,438,772 drachmas; of silk and cocoons, 1,790,402 drachmas; of valonea, 1,609,958 drachmas; of brandy, 1,448,889 drachmas; of sponges, 1,320,040 drachmas; of olives, 869,758 drachmas; of gunpowder, 621,800 drachmas; of emery, 467,838 drachmas; of cement, 411,156 drachmas; of soap, 317,690 drachmas; of fruit, 260,306 drachmas; of other articles, 9,239,873 drachmas.

The values in gold drachmas of the special imports from and special exports to different countries in 1898 are given in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain	41,485,989	28,013,098
Russia	33,246,991	1,674,076
Turkey and Egypt	16,979,666	10,724,221
Austria-Hungary	16,607,899	8,473,008
France	12,095,343	9,755,251
Germany	11,337,703	5,495,478
Belgium	4,547,714	8,033,712
Italy	5,294,651	4,066,503
United States	4,602,312	4,024,035
Netherlands	1,193,949	5,691,018
All other countries	5,924,821	2,272,201
Total	153,219,038	88,221,601

Railroads, Posts, and Telegraphs.—The railroads, having a total length of 591 miles, are being extended from Piræus northward to Demerly, Thessaly, eventually to connect with the European system at Salonica, and southward to Pyrgos, Meligala, and Kyparissa in the Peloponnesus. The surplus of the assigned revenues is

available for the railroad to the Turkish frontier and for the line into the Morea, which has been begun.

The telegraph-lines, including cables, have a length of 5,300 miles, with 6,200 miles of wire. The post-office in 1899 forwarded 3,510,247 letters and postal cards and 5,136,138 newspapers, circulars, and samples in the internal and 2,581,151 letters and postal cards and 1,014,205 newspapers, circulars, and samples in the international service; receipts, 1,950,372 drachmas; expenses, 1,958,700 drachmas.

Politics and Legislation.—Little progress has been made in legislation by the Theotokis ministry, which, notwithstanding its majority in the Boule over all the Opposition parties united, has not ventured to present in the face of obstruction projects of incontestable utility, and has carried through useless measures to please the different groups of the majority. A movement for the revision of the Constitution has been organized which contemplates the institution of a Senate to review and correct the action of the popular body. Petitions have been circulated in favor of permitting the Government to rule without the Boule in an emergency.

The award of the ambassadors at Constantinople who were to arbitrate the points of difference between Greece and Turkey, regarding specially the diplomatic privileges in the Ottoman Empire of Greece, which claimed similar rights to those enjoyed under the capitulations by other powers, was signed on April 3, 1901, having been drawn up by the German ambassador and accepted with slight emendations by the ambassadors of the other powers that intervened to bring the war between Greece and Turkey to an end in 1898. The capitulations that Greece enjoyed before the war and her position as a most favored nation in Turkey were declared to have been terminated by the declaration. Instead of the former status a new one not less favorable is created, in which the Hellenic Kingdom occupies an intermediate position between the states that enjoy the full advantages of the capitulations and those that have no capitulations. Greece is permitted to retain in the main jurisdiction over her subjects in Turkey. The Greek minister at Constantinople endeavored to secure favorable conditions by direct negotiation with the Porte. A great many of the Greeks in Turkey who formerly claimed Hellenic nationality inscribed themselves as *protégés* of France, Italy, or other countries. The consular convention on which negotiations were pending could not be concluded until the ambassadors gave their award. By virtue of this award the Greek consulates retain all the authority and immunities that were secured by former agreements, and these rights are more clearly defined so as to prevent abuses. The consular authorities must keep a register of the Hellenic citizens over whom they have jurisdiction. The decision regarding jurisdiction in disputed cases rests with Greek and Turkish arbitrators. The old claim of Turkey to collect the trade tax from Greeks under the treaty of 1856, which Greece has for twenty years disputed, was not mentioned in the award. When the Greek Government in July notified the Porte of an intention to send a squadron on a visit to Salonica and Smyrna, the Ottoman Government declined on political grounds to authorize the visit. Against this attitude the Greek Government protested, holding it to be arbitrary and illegal between friendly governments.

A students' outbreak in November drove the ministers to offer their resignations in order that

the responsibility for the disturbance might be determined by their successors. The cause was a translation of the Gospel into modern Greek which M. Psychari wished to introduce. He obtained the support of Queen Olga, who in visiting the camps and hospitals during the Turkish war found that the soldiers had no version of the Bible which they could read. The Queen induced the Metropolitan, Procopius Cconimidis, to give his approval to the translation, although the Holy Synod had condemned it in 1899. The Queen herself had arranged for the publication of the translation, and some of the newspapers advocated its official introduction. The scholars of Greece generally looked upon the proposed innovation as one tending to debase and denationalize the language. Since the deliverance of Greece from Turkish rule they had been endeavoring to extirpate the corruptions which four hundred and thirty years of Venetian and Ottoman domination had introduced into the language, to banish Italian, Slavic, and Turkish words and idioms, and to restore the Greek of Xenophon and of Chrysostom until the official language and the language of educated society was once again pure Greek. Hence the Athenians, and most of all the students, regarded as a national danger and a relapse into barbarism the recognition and perpetuation of the discarded vernacular through an authorized popular translation of the Scriptures. The members of the Government sympathized with this view. The espousal of the Queen's project by the Metropolitan led to violent demonstrations by the students of the university. The populace of the capital joined in the riots. The troops interfered, and were assailed with stones and revolvers, and they fired back, mostly in the air. Many persons were killed or wounded. The ministers held the Metropolitan responsible, and demanded his resignation. He refused at first, and afterward signed the resignation when the King and Prime Minister both demanded it. The Opposition in the Boule, led by M. Delyannis, accused the ministry of weakness and of being responsible for the loss of life, and then they insisted on resigning.

GUAM, the principal island in the Ladrone or Marianne group, occupied by the United States in the war with Spain and ceded by the treaty of peace concluded at Paris on Dec. 11, 1898. It has an area of nearly 200 square miles and about 9,000 inhabitants, descendants of immigrants from the Philippine Islands. Of these 6,000 live in Agana, the capital. There are 18 schools, and 90 per cent. of the people can read and write. Both English and Spanish are spoken. The island is well wooded and very fertile, having an abundance of water. A garrison of United States marines is posted there, and coal is kept for United States naval vessels. Many of the captured Filipino rebel chiefs have been sent to Guam as prisoners of war.

GUATEMALA, a republic of Central America. The legislative power is vested in the National Assembly, containing 69 members, elected for four years by universal adult male suffrage, and in the Council of State, consisting of 13 members, part of them elected by the Assembly and part appointed by the President. The executive power is vested in the President, who according to the Constitution is elected by the people for six years, and may not be a candidate for reelection. Manuel Estrada Cabrera was proclaimed President of the republic by the National Assembly on Sept. 25, 1898, for the term ending March 15, 1905. The Cabinet at the beginning of 1901 consisted of the following members: Secretary of State for the In-

terior and Justice, Juan J. Argueta; for Foreign Affairs, Juan Barrios; for War, Luis Molina; for Public Works and Agriculture, Rafael Spinola; for Finance, Guillermo Aguirre; for Public Instruction, J. A. Mandujano.

Area and Population.—The estimated area is 48,290 square miles, with 1,574,340 inhabitants in 1900. The number of births in 1899 was 71,998; of deaths, 34,629. Education is compulsory and gratuitous, and in 1895 there were 1,266 public schools, with 64,015 pupils in attendance.

Finances.—The revenue collected in 1899 was \$8,566,906 in currency. The estimated revenue for 1900 was \$9,770,000, and expenditure \$9,611,201. Of the revenue \$4,340,000 was the estimated yield of customs duties, \$3,760,000 that of taxes, \$1,370,000 the profits of monopolies, and \$300,000 the net revenue from posts and telegraphs. Of the expenditures \$54,620 were assigned to the National Assembly, \$72,000 to the executive, \$1,421,524 to the Department of the Interior and Justice, \$146,100 to that of Foreign Affairs, \$3,157,856 to that of Finance, \$950,388 to that of Fomento, \$1,998,203 to that of War, \$1,513,915 to that of Public Instruction, and \$296,595 to various expenses.

The foreign debt on Jan. 1, 1900, amounted to \$9,087,465 in gold, the internal debt to \$25,763,776 in silver. The foreign debt consisted of a 4-per cent. loan contracted in 1895, reported by the council for foreign bondholders to amount to £1,571,768, including £88,968 of arrears of interest; and in addition to this of loans contracted in Germany and elsewhere in 1897 and 1898 amounting to \$828,125 in gold and railroad and other gold obligations amounting to \$548,729. The banks of the country were authorized in October, 1898, to issue \$6,000,000 in notes which are legal tender for all obligations, even such as have been contracted specifically in silver. Revenues are collected in currency, and gold and silver have disappeared from the country and foreign exchange has risen to an enormous premium.

The Army.—The legal strength of the active army is 673 superior officers, 2,305 subordinate officers, and 56,915 men; that of the reserve, 29,439 of all ranks. The actual number of officers and men in active service may be 7,000. By the law of May 23, 1888, every able-bodied man between the ages of eighteen and twenty-five who pays less than \$50 taxes is obliged to serve unless he is an only son or a public functionary, and after completing his term in the regular army he is enrolled in the militia until he reaches the age of fifty years.

Commerce and Production.—The soil of Guatemala is exceedingly productive, and German settlers and others have developed the cultivation of coffee with profit in spite of an export duty which was fixed in 1900 at \$6 a quintal. The export of coffee in 1899 was 841,945 quintals. The yield of tobacco was 9,350 quintals; of sugar, 113,570 quintals; of bananas, 11,872 bunches; of cacao, 1,872 quintals. Wheat, corn, and beans are the principal food crops. Grazing is good on the higher table-lands. The number of horses in 1899 was estimated at 50,343; of cattle, 196,780; of sheep, 77,600; of hogs, 29,784. The total value of exports in 1899 was \$8,370,555 in gold. The export of coffee was valued at \$7,390,477; of sugar, \$250,360; of bananas, \$118,047; of rubber, \$256,921; of hides and skins, \$267,970. The quantity of coffee exported was 841,945 quintals, of which 487,022 quintals were shipped to Germany, 183,960 to Great Britain, and 156,964 to the United States. Of the imports of Guatemala about 41 per cent. are supplied by the United

States, 28 per cent. by Great Britain, 24 per cent. by Germany, and 6 per cent. by France. The chief imports are cotton cloth, flour, provisions, drinks, and iron manufactures. The duties on imported goods were lowered 30 per cent., and the period was extended in August by a Government decree till Dec. 31, 1901.

Railroads, Posts, and Telegraphs.—Guatemala la Nueva, the capital, of whose 72,000 inhabitants 80 per cent. are of European birth or descent, is connected by a railroad, 85 miles in length, with Escuintla and San José, and a new one connecting it with Port Barrios has been

partly constructed by American engineers. The Central American Improvement Company has undertaken to complete the line, 210 miles in total length, receiving 500,000 acres of land and the right to operate the railroad for ten years, after which it will be turned over to the Government for the agreed price of \$4,000,000. The railroad connecting the capital with the port of Iztapa, on the Pacific, has already been built.

The post-office in 1899 received 5,684,613 letters, newspapers, and other pieces of mail-matter, and despatched 4,051,823. There were 3,400 miles of telegraphs in 1899; number of messages, 796,192.

H

HAWAII, a Territory of the United States, formerly an independent kingdom, proclaimed a republic in 1894 after the abdication of Queen Liliuokalani, and formally annexed to the United States on Aug. 12, 1898, in accordance with a joint resolution of the United States Congress, an annexation treaty having been signed at Washington on June 16, 1897, by the Secretary of State and envoys of the Hawaiian Republic. On June 14, 1900, the islands were organized as a Territory of the United States in accordance with the act of Congress approved April 30, 1900, which admitted to citizenship of the United States all persons who at the date of the proclamation of annexation were citizens of the Hawaiian Republic. Sanford B. Dole, President of the Hawaiian Republic, was appointed Governor of the Territory.

Area and Population.—The islands have an area of 6,740 square miles, with a population estimated in 1898 at 117,281. At the census of June 14, 1900, the population was 154,001. In 1896 it was 109,020, of which number 7,570 were engaged in agriculture, 2,100 in fishing and navigation, 2,265 in industry, 2,031 in commerce and transportation, 2,580 in the liberal professions, 4,310 in various occupations, 34,498 were laborers, and 53,726 were without occupation. The number of immigrants in 1898 was 17,229 and the number of emigrants 7,313. In 1899 the immigration was 20,245.

Finances.—The revenue in 1899 was \$3,345,231, of which \$1,295,628 were derived from customs, \$1,068,117 from taxation, and \$981,486 from internal-revenue duties. The expenditure for the public debt was \$260,976; for education, \$340,073; for the military, \$37,383; for public works, \$372,415; for sanitary works, \$246,145; for justice, \$308,215. The debt of the former Government was \$4,890,351 at the end of 1899. By the resolution of Congress the United States assumed the debts of the former republic not to exceed \$4,000,000.

Commerce and Production.—The principal product is sugar, and next to that rice, but coffee and bananas are exported, and hides and skins and wool in small quantities. The value of sugar exported in 1899 was \$21,898,190, amounting nearly to 97 per cent. of the total exports, which were \$22,628,000 in value, while imports were valued at \$19,059,000. The value of coffee exported was \$132,347; of bananas, \$84,268; of rice, \$42,562. Of the exports 99.5 per cent. went to the United States, whence were brought 78.8 per cent. of the imports, and from Great Britain 11.25 per cent. The imports are for the most part groceries and provisions, flour, clothing, timber, machinery, hardware, and cotton cloth. In 1900 the value of sugar imported from the Hawaiian Islands into the United States was \$19,792,150, while the ex-

ports of iron and steel manufactures to Hawaii were \$4,064,306 in value; of timber and wood manufactures, \$1,314,957; of breadstuffs, \$1,022,955. From June 14, 1900, the customs tariff and navigation laws have been in force in Hawaii, and no separate reports of commerce are made.

Politics and Legislation.—The ascendancy of the Home Rule party, in spite of the intention of the framers of the Constitution to keep control by the restriction of the native vote, brought about a conflict between the Legislature and the executive. The Home Rulers controlled both houses of the Legislature in its first session, which was followed by a supplementary session. In the voting for a delegate to Congress they elected Robert W. Wilcox by 4,002 votes, against 3,756 cast for Sam Parker, the Republican candidate, and 1,650 for Prince David Kaunauka, the candidate of the Democrats. Some of the elected members on the majority side of both houses were men from the humbler walks of life—fishermen, hackmen, and the like—who were entirely ignorant of English. Although the organic act prescribes that proceedings must be in English, the Legislature voted that Hawaiian might also be used, the speeches delivered in the native language being repeated in English by interpreters. The Legislature passed many acts that were vetoed by the Governor and others that he condemned, and spent much time in discussions as vain as they were violent, and at the end of the sixty days which constitute the legal period for a session it had not yet made appropriations for the schools or for public works that were in progress. Mr. Akima, the Speaker of the House, appealed to the Governor to extend the session for thirty days to enable unfinished business to be transacted. Governor Dole replied that the conduct of the session offered no assurance that such extension would tend to promote the interests of the Territory. One act of the Legislature exempts persons worth less than \$3,500 from proceedings in distraint for the recovery of debt. The poll-tax was abolished, and a 2-per-cent. tax on incomes was imposed. Men having more than 5 children were made exempt from taxation. The quarantine laws of the United States in their application to Hawaii were condemned in a resolution that was introduced, and lacked but few votes of passing. A judicial tangle which divided the judges and involved Gov. Dole in their quarrel was taken up by the Legislature, which interfered in behalf of the new judges belonging to the antimissionary school of politics and against those of the old régime. Circuit-Judge Humphreys, one of the new judges, gave offense to the bar, the members of which petitioned for his removal. George D. Gear, presiding judge of the circuit court, ordered the release of several pris-

oners who had been sentenced for murder and rape, on the ground that their conviction was unconstitutional because a jury of fewer than 12 men had found them guilty. Attorney-General Dole immediately caused their rearrest on the old charge and asked for an appeal, which was denied by the lower court on the ground that in habeas corpus cases no appeal can lie. The Attorney-General then brought the matter before the Supreme Court, in which Chief-Justice Fear and Justice Perry were members of the old *régime*. The circuit court called a special grand jury, and discharged it because it would not act before the Supreme Court had rendered its decision. The Legislature took up the controversy, which was discussed with unbridled license in the Honolulu press. When the session had to be closed by lapse of time the Legislature passed a vote of want of confidence in the Governor, and deputed Mr. Beckley, leader of the Home Rulers, to go to the United States to communicate the same to President McKinley.

HAYTI, a republic in the West Indies, occupying the western third of the island of Hayti. The legislative power is vested in the National Assembly, consisting of a Senate of 39 members, chosen by the lower house for six years from lists submitted by the President and by a college of electors, and of a House of Representatives, 95 in number, elected for three years by all adult male citizens possessing visible means of support. The President is elected by the people, or sometimes by the National Assembly, for seven years. Gen. Tiresias Simon Sam was elected in 1896 for the remainder of Gen. Hippolyte's term, which ends on May 15, 1902. The Cabinet at the beginning of 1901 was composed as follows: Secretary of State for Foreign Affairs, Brutus San Victor; for Finance and Commerce, B. Faine; for the Interior and Police, Tancredi Auguste; for Agriculture and Public Works, C. Leconte; for Justice and Public Worship, L. Cauvin; for War and Marine, V. Guillaume; for Public Instruction, M. Chanzy. President Sam, taking the ground that he was elected for the regular period, not for an unexpired term, announced the intention of remaining in office till May, 1903, the National Assembly in 1896 having passed a resolution declaring that his term will not expire before that date.

Area and Population.—The area of Hayti is estimated at 10,204 square miles. The population in 1894 was 1,210,625 according to an enumeration made by the clergy. Port-au-Prince, the capital, has about 50,000 inhabitants; Cape Haitien, 29,000; Les Cayes, 25,000; Gonaïves, 18,000.

Finances.—The revenue for 1900 was estimated at \$4,516,096 in paper and \$2,912,984 in gold, the expenditure at \$4,499,067 in paper and \$2,913,593 in gold. The export duties, paid in American gold, amounted to \$2,815,902 in 1899; the import duties, paid in currency, to \$2,618,869. American gold in 1899 was at an average premium of 172. There were in circulation \$3,749,000 in paper currency, \$3,500,000 in silver, and \$1,200,000 in American gold.

The external debt on Jan. 1, 1900, was \$12,960,642, bearing 5 and 6 per cent. interest and payable in gold. The internal debt payable in gold, partly secured on the export duty on coffee, was \$6,115,091, besides which there was a currency debt of \$9,372,183.

Commerce and Production.—Coffee is the most valuable crop, and is subjected to a heavy export duty. Cacao is also cultivated, and cotton in increasing quantities. A company has been formed for the cultivation of tobacco. Cattle,

as well as horses and goats, are raised, but their exportation has been checked by the imposition of onerous duties. The mineral wealth of the country is not developed, except that gold is washed in a crude fashion and copper-mines have been opened. A concession has been given for mining coal. Silver, iron, antimony, tin, sulfur, kaolin, nickel, gypsum, and porphyry have been found. Logwood is abundant, and various valuable woods are found in the forests. The export of coffee in the year ending Sept. 30, 1899, was 61,622,184 pounds; of cacao, 4,039,500 pounds; of logwood, 82,836,302 pounds; of cotton, 1,471,992 pounds; of hides, 291,133 pounds; of copper, 22,590 pounds. Other exports are honey and wax, goatskins, and cabinet woods.

HOLLAND. (See NETHERLANDS.)

HONDURAS, a republic of Central America. The legislative power is vested in the Congress, a single chamber of 46 members, elected for four years by universal adult male suffrage. The President of the republic is elected likewise by popular suffrage for four years. Gen. Terencio Sierra was elected President in 1899 for the term ending Jan. 31, 1903, and Gen. José M. Reina was elected Vice-President. The members of the Cabinet at the beginning of 1901 were as follow: Minister of Foreign Affairs, Dr. C. Bonilla; Minister of Public Works, F. Altschul; Minister of Justice and Public Instruction, Dr. Juan A. Arias; Acting Minister of the Interior, Dr. Bonilla; Minister of Finance, D. Fortin; Minister of War, Gen. M. Rosales.

Area and Population.—The area of Honduras is estimated at 45,250 square miles, the population at 407,000. Tegucigalpa, the capital, has about 12,600 inhabitants.

Finances.—The revenue in 1899 was reported to be \$2,351,240, and expenditure \$2,378,565. For 1901 the estimate of revenue was \$2,423,000, of which \$970,000 were from customs and \$800,000 from the spirit monopoly. The estimated expenditure was \$2,416,824, of which \$814,124 were required for the army, \$419,708 for public works, and \$405,695 for the interior.

The foreign debt in the middle of 1900 was stated to amount to £18,298,258, of which £12,899,688 were arrears of interest. The internal debt was \$1,800,812. The Honduras Government in 1897 signed a contract giving the management of the customs to a New York syndicate which assumed the English-held debt which has blighted the country's prosperity since 1870. The bonds were given for the construction of a railroad across the isthmus. The original issue was £1,000,000, and with fresh issues the debt grew to £5,000,000, and the promoters of the railroad scheme who handled all the money expended only a fraction of it on the railroad, building the section from Puerto Cortez to La Pimienta, and calling upon the Government to issue more bonds in order to carry it farther. The credit of the Government was already exhausted when the conclusion was reached that it had been swindled. The British Government declined to use pressure to enforce the collection of this debt after investigating it and finding all the transactions tainted with fraud. Nevertheless, the Honduras Government acknowledged the obligation, and has tried various plans for discharging the debt. The railroad was leased to St. Louis capitalists from 1892 till 1897 for \$25,000 a year. The syndicate of New Yorkers which then took it and the concession of the customs agreed to pay the Government \$1,000,000 a year, to wipe out the bonds, to complete the railroad across the isthmus in five years, and to establish a bank. The work of

extending the railroad was begun in earnest, but after a while operations were stopped. The syndicate found that the customs revenue fell away from the time it took charge, and accused the Government of allowing smuggling to go on wholesale without taking any steps to stop it. The Government retorted that the syndicate was taking no steps toward clearing off the bonds. The friction resulted in the abandonment of this part of the undertaking by the syndicate, which had to contribute \$200,000 to the \$1,000,000 that it paid the Government. The Government resumed charge of the customs, each party charging the other with bad faith. Before another year had expired the syndicate brought another charge against the Government of breach of contract. The Government had promised alternate sections of land on either side of the route of the railroad from La Pimienta to Amapala, yet in the treaty for the union of Honduras with Nicaragua and Salvador to form the Greater Republic of Central America the Pacific coast of Honduras was ceded for a federal district, and if the union had become a reality Honduras would have placed it beyond her power to carry out the agreement relative to the lands situated in this district. The syndicate managers having threatened to invoke the action of the United States Government, to avert claims for damages the Honduras Government, in May, 1901, made a new contract with the syndicate, in which there were no stipulations regarding the debt, the custom-houses, or the pro-

jected bank, but only a lease of the existing railroad to the syndicate for \$15,000 a year and an agreement on the part of the syndicate to resume work on the extension, accompanied, however, by no guarantees and no conditions except that the lease will become void if the syndicate fails to build 15 miles of new railroad within two years. The syndicate did not resume construction, and the President contemplates the operation of the railroad by the Government after the expiration of the present contract, the profits to be devoted to extending the line, without which the interior of Honduras can never be developed.

Commerce and Production.—Bananas are cultivated extensively for the United States market. Minor products are tobacco, sugar, corn, coffee, indigo, rice, and wheat. Cattle are raised in considerable numbers. The weaving of hats is an important house industry. Gold, platinum, silver, copper, lead, zinc, iron, antimony, and nickel are found in many places and coal is present, but mining is not carried on except washing for gold in the stream beds. The value of imports in 1899 was \$1,409,788 in gold; of exports, \$2,656,661. The export of bananas was \$445,337; of cattle, \$130,682; of coffee, \$53,221; of coconuts, \$65,904; of woods, \$43,258; of silver, \$277,332. Of the total value of imports, \$1,015,435 came from the United States, \$169,076 from Germany, and \$113,216 from Great Britain. Of the exports \$1,710,379 went to the United States, \$55,045 to Germany, and \$39,746 to Great Britain.

I

IDAHO. (See under UNITED STATES.)

ILLINOIS. (See under UNITED STATES.)

INDIA, an empire in southern Asia, under the sovereignty of the King of Great Britain and Ireland, who bears the title of Emperor of India, on the basis of a personal union, and governed under general acts of the British Parliament by a Governor-General in consultation with and under instructions from the Secretary of State for India, a member of the British Cabinet. The Governor-General, popularly called the Viceroy, is advised by a Council of 5 ordinary members, besides the commander-in-chief of the forces, who are appointed for five years. The Legislative Council, composed of the members of the Governor-General's Council and 16 additional members appointed by him on the recommendation of certain public bodies, has power to make laws, subject to the approval of the Governor-General, for all persons within British India, for all British subjects in native states, and for native Indian subjects of the King in foreign countries. British India is divided for purposes of administration into the presidencies of Madras and Bombay, each of which has a Governor, the lieutenant-governors of Bengal, the Northwest Provinces and Oudh, the Punjab, and Burma, and the chief-commissionerships of Coorg, Assam, and the Central Provinces. Each Governor and Lieutenant-Governor has his Legislative Council. The nine provinces are subdivided into about 250 districts. More than 600 feudatory native states are subject to the control of the Governor-General.

George Nathaniel Curzon, created Baron Curzon of Kedleston, has been Governor-General since 1898, when he succeeded Lord Elgin. The members of the Council in the beginning of 1901 were Major-Gen. E. H. Collen, Sir A. C. Trevor, C. M. Rivaz, Sir Edward Fitzgerald Law, and Thomas Raleigh. The commander-in-chief of the forces

was Gen. Sir Arthur Power Palmer. The Governor of Bombay was Lord Northcote; Governor of Madras, Lord Amphilhill; Lieutenant-Governor of Bengal, Sir John Woodburn; Lieutenant-Governor of the Northwest Provinces and Oudh, Sir A. P. H. Macdonnell; Lieutenant-Governor of the Punjab, Sir W. M. Young; Lieutenant-Governor of Burma, Sir F. W. R. Fryer; Chief Commissioner of the Central Provinces, A. H. L. Fraser; Chief Commissioner of Assam, H. J. S. Cotton; Chief Commissioner of Coorg and Resident of Mysore, Col. D. Robertson; Resident at Haidarabad, Sir T. J. C. Chichele-Plowden. At the close of the financial year Major-Gen. Sir Edmond R. Elles succeeded Sir Edwin Collen as Military Member of the Viceroy's Council.

Area and Population.—British India has an area of 965,005 square miles. The population in 1891 was 221,266,000. The area of the feudatory states is 992,000 square miles, and their population was 66,050,000, making the total area of the Indian Empire 1,957,000 square miles, with a total population in 1891 of 287,317,000. The census of 1901 makes the population of the British territory 231,085,000, an increase of 4.44 per cent.; that of the native states 63,181,000, a decrease of 4.34 per cent. The total population of all India was 294,266,701, an increase of 2.42 per cent. The actual increase is 6,949,653, but this includes the population of tracts enumerated for the first time. Eliminating these, the proportionate increase is reduced to 4,283,069, or only 1.49 per cent., compared with 11.2 per cent. in the previous decennium. The native states that were visited by the famine show decreases of 19.23 per cent. in Baroda, 18.1 per cent. in Rajputana, 17.5 per cent. in the Central Indian states, 14.49 per cent. in those of Bombay, 8.19 per cent. in those of the Central Provinces, and 3.14 per cent. in Haidarabad, while the ones that escaped total drought

show increases comparable to those of the similarly situated parts of British India, the rate being 14.24 per cent. in Kashmir, 13.33 per cent. in the states of Bengal, 13.23 per cent. in Madras, 12 per cent. in Mysore, 4.12 per cent. in the Punjab, and 0.91 per cent. in the Northwest Provinces. In British India there was a decline of 12.17 per cent. in Ajmere, 6.48 per cent. in Aden, 4.99 per cent. in Berar, and 3.93 per cent. in Bombay, and an increase of 1.63 per cent. in the Northwest Provinces, 2.40 per cent. in Oudh, 4.28 per cent. in Coorg, 4.72 per cent. in Bengal, 7.24 per cent. in Madras, 7.58 per cent. in the Punjab, 12.67 per cent. in Assam, 14.49 per cent. in Upper Burma, and 21.84 per cent. in Lower Burma. The variations reflect the vicissitudes of the period, but how far the decline in particular tracts is due to enhanced mortality, impaired fertility of the soil, or emigration induced by high prices and the pressure of population on the land, has not been determined. The most marked decrease in the British districts and in the native states is found where the famine was prolonged and severe, and where the ravages of the plague were greatest. The census of 1891 showed a general increase all over India except in certain fever-stricken tracts. The decade ending with 1881 was marked by a wide-spread famine which checked the normal increase, while the period between 1881 and 1891 was practically free from causes involving abnormal mortality. In the last decade there were scanty harvests for several years in some parts, a severe famine in 1896-'97, and in 1899-1900 the worst famine recorded, and furthermore the ravages of the plague in the Bombay Presidency extended over four years, carrying off 700,000 people. The native states, having the poorest soil and natural resources and a less enlightened and efficient administration, were affected much more seriously than neighboring British provinces. In some of them the decrease, due partly to emigration into British territory, was enormous. In Rewa Kantha the population declined from 733,500 in 1891 to 478,000, in Cutch from 558,400 to 487,300, in Udaipur from 1,862,000 to 1,021,600, in Bhopal from 2,006,800 to 1,198,300.

The census of 1901 included the new territories of the Shan States of Burma, the Chin hill tribes, the Baluchistan Agency, Sikkim, and minor areas, while some unimportant areas were omitted because the hostility of the people rendered them unsafe for the enumerators. For the purposes of the census the whole of India was divided into blocks of from 30 to 50 houses, each in charge of an enumerator, every 10 or 15 blocks under a supervisor, and each group of these circles under a superintendent. On the night of March 1 the enumerators went through their blocks with schedules of the population, from which they struck out the individuals who had died or left the block and to which they added those who had arrived and the children newly born. In two weeks the returns were all added together, and the population of all the districts of India was known. The Mussulmans of Bombay, who had a dread experience of the sanitary measures taken to stamp out the plague, made trouble for the enumerators, and the fear of catching the plague made some of them quit their posts. In the Andamans, where a new tribe was discovered which had killed off all its members that were infected with a disease recently introduced, the enumerators were attacked, and escaped by firing on the people they had come to enumerate. The census schedules have a column for defectives, the insane, deaf-mutes, the blind, and lepers being specified; a census of religions, divided into the caste of Hindus

and Jains, tribes having no caste, Sikhs, Buddhists, and others, which will show the extent of the gradual Brahminizing of the casteless tribes; a column showing the language ordinarily used, the number who can read and write English, and the number able to read and write any language; and a column showing the means of subsistence, both the principal occupation and any subsidiary occupation or source of income, distinguishing actual workers and the women, children, and other dependents. Women are less numerous than men in India as a whole, both in British territory and in native states. In certain provinces and states the proportions are different. In Bengal the sexes are almost equal; in Bombay Presidency, Burma, the Northwest Provinces, and the Punjab the males largely predominate; in Madras and the Central Provinces the females are greatly in excess; in the native states of Burma and the Central Provinces there is a smaller surplus of females, and in other native territories the males preponderate. In Calcutta 732,000 males were enumerated and only 389,000 females; in Rangoon, 163,000 males and 69,000 females; in Bombay, 475,000 males and 296,000 females. This discrepancy is due in a great measure to the migration of men to find employment in the industrial centers, and in Bombay to the withdrawal of women from the town owing to the plague. The returns of women everywhere, and especially in great towns, are less complete than those of men on account of native reluctance to give information regarding their women. This is one of the difficulties that make the Indian census necessarily imperfect. The census of the sexes compared with that of 1891 shows that the males have succumbed to famine in a greater degree than females. The returns of population for the British provinces compared with those of the previous decennial census are given in the following table:

BRITISH TERRITORY.	1891.	1901.
Ajmere and Marwar.....	542,000	476,000
Assam.....	5,433,000	6,122,000
Bengal.....	71,346,000	74,713,000
Berar.....	2,897,000	1,491,000
Bombay.....	15,957,000	15,330,000
Sind.....	2,871,000	3,212,000
Aden.....	44,000	41,000
Upper Burma.....	3,362,000	3,749,000
Lower Burma.....	4,408,000	5,371,000
Central Provinces.....	10,784,000	9,845,000
Coorg.....	173,000	170,000
Madras.....	35,630,000	38,208,000
Northwest Provinces.....	34,253,000	34,812,000
Oudh.....	12,650,000	12,884,000
Punjab.....	20,766,000	22,449,000
Baluchistan.....	.....	810,000
Andamans.....	15,000	24,000
Total.....	221,266,000	231,085,000

The population of the native states at both periods was as follows:

NATIVE STATES.	1891.	1901.
Haidarabad.....	11,537,000	11,174,000
Baroda.....	2,415,000	1,956,000
Mysore.....	4,943,000	5,538,000
Kashmir.....	2,543,000	2,906,000
Rajputana.....	12,016,000	9,841,000
Central India.....	10,318,000	8,501,000
Bombay.....	8,059,000	6,891,000
Madras.....	3,700,000	4,190,000
Central Provinces.....	2,160,000	1,983,000
Bengal.....	3,296,000	3,735,000
Northwest Provinces.....	792,000	799,000
Punjab.....	4,263,000	4,438,000
Burma.....	.....	1,228,000
Total.....	66,050,000	63,181,000

In race 195,460,000 of the population in 1891 were of the Indic-Aryan stock, while 52,960,000 were Dravidians, 7,290,000 were Burmese, 2,960,000 Kolarian, 1,330,000 Iranian, 250,000 European, and 139,000 Chinese, Annamese, etc. The birth-rate in 1898 according to the registry was 35.79 per mille in Bengal, 37.35 in the Northwest Provinces and Oudh, 41 in the Punjab, 29.75 in the Central Provinces, 34.11 in Lower Burma, 29.46 in Assam, 27.4 in Madras, 30.94 in Bombay. The death-rate was 26.57 in Bengal, 27.38 in the Northwest Provinces and Oudh, 31.1 in the Punjab, 23.4 in the Central Provinces, 26.13 in Lower Burma, 36.15 in Assam, 21 in Madras, and 29.16 in Bombay. The coolie emigration, mainly to Natal, Demerara, Trinidad, Dutch Guiana, and Fiji, was 10,306 in 1898. Coolie laborers have been employed since 1896 in building the Uganda Railroad. 5,282 having been sent out up to 1898.

There were 164 male colleges in 1899 with 20,842 students, and 5 female colleges with 164 students; 4,926 secondary schools for males with 525,868 scholars, and 472 for females with 43,403 scholars; 95,240 primary schools for males with 2,824,257 scholars, and 5,618 for females with 313,289 scholars; 41,515 private schools for males with 558,914 scholars, and 1,290 for females with 42,926 scholars; and 651 training and special schools for males with 25,787 scholars, and 69 for females with 2,371 scholars; in all, 142,494 schools for males with 3,955,668 scholars, and 7,454 for females with 402,153 scholars. Of the total number of schools 22,804 were public, 61,494 aided by the Government, and 65,650 private and unaided. The University of Calcutta had 2,721 students in 1898, the University of Madras 1,515, and there were 1,042 and 1,082 at the University of Bombay and the Punjab University respectively, and 637 at the University of Allahabad. The educational expenditure in 1899 was Rx 3,621,553.

Finances.—The total public revenue for 1899 was 1,014,266,930 rupees. The expenditure was 974,653,830 rupees, of which 729,776,180 rupees were expended in India and 244,877,650 rupees in England. The revenue collected by the Government of India was 184,402,310 rupees, and the expenditure of the General Government 240,827,520 rupees; the revenue of the Central Provinces was 25,821,890 rupees, and expenditure 16,855,540 rupees; the revenue of Burma was 69,890,400 rupees, and expenditure 44,629,220 rupees; the revenue of Assam was 14,448,380 rupees, and expenditure 12,176,870 rupees; the revenue of Bengal was 206,258,630 rupees, and expenditure 98,946,760 rupees; the revenue of the Northwest Provinces and Oudh was 125,035,420 rupees, and expenditure 60,698,290 rupees; the revenue of the Punjab was 93,601,470 rupees, and expenditure 53,020,890 rupees; the revenue of Madras was 142,864,770 rupees, and expenditure 102,498,590 rupees; the revenue of Bombay was Rx 148,000,340, and expenditure Rx 100,122,500; the receipts in England were 3,643,320 rupees. The land revenue in 1899 was 274,593,130 rupees, not reckoning the addition charged on account of irrigation; opium revenue, 57,253,300 rupees; revenue from salt, 90,998,710 rupees.

The revised estimates for the year ending March 31, 1900, make the total revenue for that year 1,027,985,500 rupees, the land revenue yielding 258,012,000 rupees according to the estimate; opium, 66,057,000 rupees; salt, 88,187,000 rupees; stamps, 48,475,000 rupees; excise, Rx 57,909,000; provincial rates, 37,718,000 rupees; customs, 47,299,000 rupees; assessed taxes, 19,540,000 rupees; forests, 18,656,000 rupees; registration, 4,221,000 rupees; tribute, 9,261,000 rupees; interest, 9,069,

000 rupees; post-office, telegraphs, and mint, 36,994,000 rupees; civil departments, 17,629,500 rupees; miscellaneous sources, 8,180,000 rupees; railroads, 246,964,000 rupees; irrigation, 36,228,000 rupees; buildings and roads, 6,627,000 rupees; military departments, 10,359,000 rupees. The total expenditure for 1900 according to the estimates was 992,679,000 rupees; excluding 2,985,000 rupees of provincial balances, it was 989,694,000 rupees, of which 29,317,500 rupees were for interest, 18,894,000 rupees for refunds and compensation, 93,118,500 rupees charges of collection, 29,581,000 rupees expenses of the post-office, telegraphs, and mint, 161,733,500 rupees civil salaries, 60,778,500 rupees miscellaneous civil charges, 31,094,500 rupees famine relief and insurance, 36,000 rupees railroad construction charged against revenue, 247,091,000 rupees railroad revenue account, 33,626,500 rupees for irrigation, 61,961,500 rupees for buildings and roads, 225,443,500 rupees for the army, 3,000 rupees for defense works. The budget estimate of revenue for the year ending March 31, 1901, was 1,052,337,500 rupees, and the estimate of expenditure was 1,058,191,000 rupees reduced by receipts from provincial balances to 1,049,932,000 rupees. Not included in the budget is the expenditure on capital account, amounting in 1900 to 45,640,000 rupees, and in 1901 to 23,264,500 rupees. The sum of 88,836,000 rupees is added to the expenditures for 1901 to provide for the redemption of the stock of the Great Peninsula Railroad, which was purchased by the Government on June 30, 1900. The deficit anticipated for 1900 was wiped out by increased railroad and other receipts, and there was a surplus of 41,519,345 rupees, an improvement of 3,330,000 rupees over the revised estimates. The railroads showed a net profit of 1,145,000 rupees. In the budget for 1901 the land revenue was reckoned at 271,180,000 rupees; opium revenue, 68,397,000 rupees; salt revenue, 87,676,000 rupees; stamps, 49,011,000 rupees; excise, 57,290,000 rupees; provincial rates, 39,196,000 rupees; customs, 47,013,000 rupees; assessed taxes, 19,597,000 rupees; forest receipts, 17,833,000 rupees; registration, 4,402,000 rupees; tribute, 9,277,000 rupees; interest, 9,460,000 rupees; post-office, telegraphs, and mint, 35,963,000 rupees; civil departments, 17,663,000 rupees; miscellaneous receipts, 8,161,500 rupees; railroad receipts, 256,973,000 rupees; irrigation receipts, 36,094,000 rupees; from buildings and roads, 6,657,500 rupees; from military departments, 10,563,500 rupees. The estimated expenditure in 1901 for interest was 29,427,000 rupees; for refunds and compensation, 18,657,000 rupees; charges of collection, 96,200,000 rupees; for post-office, telegraphs, and mint, 31,666,000 rupees; for civil salaries, 166,342,000 rupees; for miscellaneous civil charges, 59,011,000 rupees; for famine relief and insurance, 50,525,000 rupees; for railroad construction, 1,278,000 rupees; railroad revenue account, 264,253,500 rupees; irrigation, 34,507,000 rupees; for buildings and roads, 62,442,000 rupees; for the army, 243,881,500 rupees. The material loss to India caused by the famine is estimated at £50,000,000. The charge borne by the revenue for relief exceeded £10,000,000, besides advances and loans amounting to £5,000,000. The relief expenditure was met without any additional taxation. In the financial year 1901 a deficiency was looked for. There was, however, an increase under nearly all the heads of revenue, so that a surplus was realized amounting to £1,824,000, reckoning 15 rupees to the pound sterling. This does not include a profit of £3,000,000 from the coinage of rupees. The increase of revenue over 1900 was £2,100,000, the high price of opium giving £572,000 additional, salt £106,

000, railroad receipts £965,000, irrigation £208,000. Land revenue, on the other hand, showed a decrease of £383,000. There was an increase in expenditure of £876,000 for famine relief and insurance, £323,000 for operating railroads, and £200,000 for interest, and a decrease of £118,000 for public works other than railroads, £1,185,000 for army services, chiefly savings from the employment of troops by the Imperial Government in South Africa and China, and £124,000 in the expenditure of the civil departments. The budget estimate for the year ending March 31, 1902, make the revenue £1,086,000 more than the revised estimate for 1901, an increase of £475,000 being anticipated in land revenue, £331,000 in railroad receipts, and £183,000 under other heads, while in opium revenue lower prices are expected to cause a decrease of £589,000, in customs a lower estimate of sugar imports causes a decrease of £136,000, and £127,000 less are expected from irrigation. In expenditure an increase of £2,062,000 is estimated for army services, £652,000 for railroads, £728,000 for other public works, £493,000 for civil departments, and £124,000 for miscellaneous civil charges, while on famine relief and insurance the expenditure is estimated at £3,245,000 less, leaving the net increase £923,000, excluding mint operations, which gives an estimated surplus of £691,000. The sum of 16,400,000 rupees is allotted as a grant in aid to provincial revenues to restore financial equilibrium. The capital expenditure for 1902 is stated at £5,395,000 for railroad and irrigation works and £1,247,000 for discharge of temporary debt, etc., and the capital receipts will be £691,000 from the imperial surplus. £1,663,000 to be raised by railroad companies, £2,240,000 from new loans, including £1,000,000 in England and 20,000,000 rupees in India, £502,000 from savings-bank deposits, etc., and £111,000 from repayments of advances. The railroad program proposes the expenditure of 46,000,000 rupees on open lines, 45,900,000 rupees on lines under construction, and 11,300,000 rupees on lines only recently begun. The expenditure on irrigation works will be 10,000,000 rupees. The famine expenditures of 1901 were 63,400,000 rupees for direct relief, 41,100,000 rupees in loans to native states, and 14,200,000 rupees for special agricultural advances, while the loss of land revenue and provincial rates amounted to 14,700,000 rupees and compensation for dearth of provisions to 6,600,000 rupees. A royal commission that was appointed to inquire into the relations between Indian finance and the imperial exchequer spent several years in taking evidence, and then ceased to do anything until questions in the House of Commons and threats of proceedings against the members for contempt extracted a report. The commission recommended that charges amounting to £257,000 a year that had been borne by the Indian treasury be transferred to British expenditure. The Imperial Government decided to assume this burden henceforth. Statesmen who deem the financial administration of the English in India to be unjust in many respects thought that in view of the losses sustained by India through recent calamities it would be right to reimburse India for the past expenditure under the same heads to the amount of about £6,000,000. Lord George Hamilton denied the principle that the payment was a restitution, and in a year when the British budget showed an enormous deficit and that of India a surplus fewer voices than ever were raised in the House of Commons for the righting of India's financial wrongs, such as the contribution of £43,000 a year toward defraying the expenses of British consular establish-

ments and embassies in Persia and China, the heavy charges for the support of the entire establishment of the Secretary of State for India, and the millions that should be available for irrigation and for other purposes to prevent famine that India is obliged to raise every year by a most oppressive system of taxation in order to pay enormous military expenses for the security and aggrandizement of the British Empire. The Government of India, which spoke slightly of irrigation as a preventive of famine while vast sums were being diverted to the northwest fortifications now regarded as of little use, has decided to promote irrigation by public enterprise if private enterprise can not be induced to enter this field; to correct the land assessments, now acknowledged to be too high in some provinces; and to establish agricultural banks, at first experimentally, for the purpose of rescuing cultivators from the grip of money-lenders. Lord Curzon has instituted an inquiry into the system of education with a view to the development of industrial and technical education, for the development of which he perceives a serious need, while literary education and the English branches studied eagerly with the object of obtaining official positions has been overstimulated, and its effect in Europeanizing natives has not been always beneficial. The displacement of native handicrafts through the importation of machine-made goods and the establishment of factories in India has increased the proportion of agriculturists, who form four-fifths of the population of a country peculiarly liable to drought. The fostering of indigenous industries through the efforts of the present Viceroy is therefore an additional means of famine insurance.

The total expenditure for 1902 was estimated at £16,345,000, an increase of £1,745,000 over the average for the last three years. The increased expenditures on irrigation and on public works for the development of the economic resources of the country, as well as for famine insurance, was coupled with extraordinary military expenditures, of which 9,400,000 rupees were for new artillery, rifles, and ammunition, 825,000 rupees for factories for manufacturing munitions of war, and 2,150,000 rupees for animals and transport. The initial expenditure of £2,333,333 was sanctioned in order that India might benefit by the lessons of the frontier warfare of 1897. The rearmament of the native army and the volunteers, which will be completed in 1903, instead of in 1905 as originally intended, will cost £1,360,000. The extra military expenditure for 1902 is £1,008,000.

The Government of India has begun to accumulate a gold reserve to safeguard the gold standard which is officially held to have aided the Government in fighting famine. The coinage of silver in the year ending March 31, 1901, was over 150,800,000 rupees, yielding £3,000,000 of profits, all of which the Government intended to pay into the reserve fund if resources permitted. In March there were £3,913,000 in the coin reserve and in the currency reserve £6,957,000 of gold and 17,800,000 rupees of silver bullion against a note emission of 280,900,000 rupees. The currency in circulation was 238,400,000 rupees, having increased steadily since 1897. The gold reserve fund contained £800,000. The total reserves of gold were £7,757,000 and of silver 76,500,000 rupees, equal to £5,107,000.

The debt of British India in 1899 reached 2,467,361,700 rupees, of which 1,126,546,980 rupees was the amount of the permanent debt in India, 1,197,686,050 rupees that of permanent debt in England, and 143,128,670 rupees the amount of unfunded debt in India. The Indian Government, after au-

nouncing in the budget statement that it intended applying for a loan of £1,000,000 in England and one of 2 crores of rupees in India, decided in July to go to the London market for £3,000,000. The loan was offered, but found no takers, and was withdrawn. Of the proposed loan the Government required £1,730,000 to balance a credit taken for current expenses in 1901. A loan of 1 crore offered in India in August was subscribed several times over at a price exceeding 97, compared with 94 rupees given for the loan of 3 crores in 1900.

Defense.—The military forces in India in 1900 numbered, according to the estimates, 219,369 men of all ranks, comprising 17,896 artillery, 28,975 cavalry, 4,462 engineers, 167,248 infantry, and 788 miscellaneous officers. There were 56,889 troops in Bengal, 68,806 in the Punjab, 47,022 in Bombay, and 46,652 in Madras. The European army numbered 73,495 of all ranks, and for 1901 the number was fixed at 73,484, of whom 66,581 were effective in the spring of 1901. The volunteer corps in India had 31,083 men enrolled, of whom 29,371 were counted as effective. The imperial service troops maintained by feudatory princes numbered 17,664. A program for the improvement of the army, adopted in 1900, to be completed in 1903, includes a new transport and the registration of camels and other animals, Maxim guns for the cavalry and a part of the infantry, the manufacture of cordite and other munitions as well as army clothing in India, an increase of staff and other officers, and the rearmament of the native troops and the volunteers with 0.303 Lee-Enfield rifles and carbines. A rifle factory will be established in India. To fill the gaps caused by the absence of native troops garrisoned in Mauritius, Singapore, and Ceylon, 5 new regiments have been raised. In 1901 there were 1,500 native troops in Mauritius, 800 native and 2,100 British troops in Ceylon, 800 native troops in Singapore, 600 in Jubaland, 5,200 British troops of the Indian establishment in South Africa, and 16,300 native and 300 British troops in China, making a total of 7,600 British and 20,000 native troops. There are about 3,000 native commissioned officers in the native army. The Government has decided to open a military career for the sons of Indian princes and nobles by training a limited number in an imperial cadet corps and providing positions on the staff for such as are not called to duties in their own states and have the desire, perseverance, and aptitude to become British officers.

Commerce and Production.—The agricultural returns for 1899 deal with 545,301,175 acres in British India out of 732,238,346 acres surveyed in British and native territory. Of the area covered by the returns 64,753,597 acres were forest, 136,566,917 acres uncultivable waste, 106,292,719 acres waste fit for cultivation, 41,200,284 acres current fallows, and 196,487,658 acres under crops. Rice occupied 74,784,045 acres; wheat, 20,225,111 acres; other grains, 87,011,350 acres; sugar-cane, 2,755,887 acres; tea, 482,959 acres; cotton, 9,178,060 acres; oil-seeds, 12,167,001 acres; indigo, 1,013,627 acres; tobacco, 1,092,903 acres; jute, 1,690,739 acres; other fibers, 687,703 acres; coffee, 148,389 acres; various food crops, 6,164,086 acres. The area on which two crops were grown was 27,166,439 acres. There were 30,414,499 acres irrigated by canals, tanks, wells, etc., counting twice over land irrigated for two crops in the year. The total area under cultivation in India has grown from 194,000,000 acres in 1880 to 217,000,000 acres in 1901, the average income of the people from 18 to 20 rupees per capita, the income of the agriculturist being now 30 rupees, against 27 rupees in 1880. The area of reserved forests has been

extended from 17,705 square miles in 1877 to 84,666 square miles in 1899, of which 18,930 square miles were in the Central Provinces, 15,667 square miles in Burma, 14,888 square miles in Madras, 13,435 square miles in Bombay, 5,881 square miles in Bengal, 4,175 square miles in Berar, 4,005 square miles in the Northwest Provinces and Oudh, 3,537 square miles in Assam, 2,892 square miles in the Punjab, 238 square miles in Coorg, 205 square miles in Baluchistan, 156 square miles in the Andaman Islands, and 139 square miles in Ajmere.

There were 176 cotton-mills, with 37,540 looms and 4,456,177 spindles in 1899, having 149,895,850 rupees invested and employing 156,056 persons; 33 jute-mills and 1 hemp-mill, with 13,469 looms and 280,942 spindles, having 49,550,000 rupees invested and employing 95,351 persons; and 4 woolen-mills, with 578 looms and 22,506 spindles. The paper-mills, 8 in number, had 6,772,000 rupees of capital. The quantity of beer brewed in 1899 was 5,570,313 gallons. The quantity of coal obtained in 1899 from 221 mines, in which 72,267 persons were employed, was 4,932,808 tons, valued at 15,515,950 rupees. The imports of coal were 422,376 tons in 1900, and there were 287 coal-mines in operation which produced over 6,000,000 tons, valued at £1,339,700, twice the output of 1894. Nearly five-sixths of the total was produced in Bengal, where mining activity has been greatest in recent years. The number of people employed in the mines was 89,000, including 25,000 women. The production was sufficient for the railroads, mills, and steamers of India, and for the exportation of 541,000 tons to Ceylon and other countries. The high price of English coal, five times as high as that of the native, and the depression in cotton manufacturing caused the imports to fall to 127,000 tons in 1901. More than 20,000,000 hundredweight of salt was produced in British India in 1901. Over a third of the quantity was made by the Government and sold to the public. Rock salt is obtained in the Punjab and saline deposits are evaporated in Rajputana and Central India, but three-fourths of the salt is produced by solar evaporation on the coasts of Bombay and Madras. Bengal and Burma imported about 7,000,000 hundredweight. The total consumption was 26,250,000 hundredweight, a little more than was consumed in any previous year, yielding a revenue to the Government of £5,822,000, about 6d. per head of population.

Coffee is grown mainly in southern India, half the crop in Mysore and the rest in Coorg and other British territory. In 1900 the total area planted was 245,400 acres. The fall in prices since 1897 and disease and bad seasons have put a stop to fresh plantings. The quantity produced in 1900 was only half the crop of 1890. All the Indian coffee is exported, chiefly to Great Britain and France. Sugar became a fiscal problem in 1898 when a large importation of refined sugar began to come in from the glutted markets of Europe. Formerly Mauritius supplied all the foreign sugar that India required. In the year ending March 31, 1898, out of a total importation of 4,235,000 hundredweight, Germany sent 1,203,000, Austria-Hungary 946,000 hundredweight, Mauritius 1,406,000 hundredweight, China, Java, and the Straits Settlements 506,000 hundredweight, and other countries 174,000 hundredweight. In the following year imports fell to 3,765,000 hundredweight, of which quantity Germany sent 414,000 hundredweight, Austria-Hungary 1,064,000 hundredweight, Mauritius 1,794,000 hundredweight, China, Java, and the Straits Settlements 424,000 hundredweight, and other countries 69,000

hundredweight. For the benefit of Indian cultivation and the sugar-planters of Mauritius the Government imposed countervailing duties on bounty-fed sugar. Owing to heavy stocks and diminished consumption in 1900, the first year of the duties, the imports declined to 2,936,000 hundredweight, of which 60,000 hundredweight came from Germany, 778,000 hundredweight from Austria-Hungary, 1,417,000 hundredweight from Mauritius, 588,000 hundredweight from China, Java, and the Straits Settlements, and 93,000 hundredweight from other countries. In the year ending March 31, 1901, the imports of refined sugar were the greatest on record, amounting to 4,842,000 hundredweight, of which Germany furnished 402,000 hundredweight, Austria-Hungary 1,321,000 hundredweight, Mauritius 2,085,000 hundredweight, China, Java, and the Straits Settlements 832,000 hundredweight, and other countries 202,000 hundredweight. The imports of beet-sugar formed half the total in 1898; in 1901 they were still one-third. The Austrian Government met the duties by giving extra subsidies to steamers for carrying sugar, and the steamship company has contracted to carry 30 per cent. more sugar in 1902. A bad crop in India in 1900 was one of the causes of the large imports in 1901, and improved methods of cultivation have enabled Mauritius to compete with European producers on more even terms. The benefit the sugar cultivators of that colony and those of the eastern countries of Asia receive from the countervailing duties is nevertheless reflected in the figures, although it can not be accurately measured. The Government has benefited by obtaining a larger revenue from sugar imports, £350,190 in 1901 against £142,150 in 1899. The effect on Indian production will take time to develop. The natives are acquiring a liking for refined sugar, although the coarse native product in 1900 was sold dearer than imported white sugar. Improvement in the selection and cultivation of cane and in the extraction and cleansing of the sugar has yet to be introduced in India, which is one of the greatest cane-growing countries in the world, having nearly 3,000,000 acres under sugar; but the ordinary yield is only 1 ton per acre, compared with 3 tons in Barbados and 4 tons in Java. Even with this small yield India produces 17 times as much as she imports. The extension of the area of sugar-cane would not be profitable until crude and wasteful methods of production are changed. A commission was appointed to examine the question of sugar as an alternative or auxiliary crop for the indigo planters of Behar. The commission recommended cultivation in accordance with modern scientific agriculture, with central crushing-mills furnished with evaporating pans and centrifugal apparatus, central refineries also; if capital were put into these modern appliances, railroad rates reduced, and an agency for distribution and sales organized, a profit of from 50 to 80 per cent. was foreseen at present prices, and Behar alone could produce 1,320,000 hundredweight. Direct aid from the Government to planters was not advised, but in an experimental agricultural station the improved methods could be demonstrated, the best varieties of cane discovered, and various other crops tried. India with modern methods could produce nearly twice as much sugar as at present, and, instead of importing, could export great quantities as in former times. Indigo supplanted sugar in Behar about 1840. This is an ancient crop in India, but the industry has died away and been revived several times. Europe in the seventeenth century refused to import more indigo in order to protect woad, and when Indian

dye came into favor again the West Indies in the following century took away the trade until the East India Company took it in hand and placed it on its former footing. European planters with capital and enterprise built up the industry now carried on in Behar, and during the nineteenth century the best Indian indigo had no competitor except the Javan product. It is an expensive crop to raise, and bad seasons bring heavy losses which must be made up by large profits in good years. Bankruptcy has been the lot of a large proportion of the indigo planters, who have had to contend in recent times, not only with the vicissitudes of the seasons, but with the competition of substitutes. The cheap alizarin dyes checked the demand for all but the best indigo, but did not cause a decline. Exports were larger in the last quarter of a century than in the previous one. The record year was 1896, when 187,000 hundredweight was exported. Poor seasons have followed, and yet the price has gone down from 267 rupees a maund in that year to 192 rupees in 1900, when the export was only 111,000 hundredweight. The indigo acreage, which averaged 1,406,000 acres between 1894 and 1899, was reduced to 1,027,000 acres in the latter year, and 964,000 acres in 1900. A new substitute for natural indigo has come into the market which threatens the planting industry with extinction. German chemists have produced real indigo by synthesis, using as the basis naphthalin, a coal-tar product of which the supply is ample. This is treated with sulfuric acid, which is reconverted and used over again indefinitely, and there are valuable by-products. The synthetic dye, known as indigo pure, is made in a factory at Ludwigshafen, in which £900,000 has been invested, extending it so that as much can be made every year as a quarter of the whole acreage in Behar can yield. Indigo pure is produced in unvarying quality, essentially superior to the best of natural indigo. Dyers like it, for they pay 20 per cent. more for it than for Indian indigo because the results are always uniform. The colors differ slightly from those of the natural dye, but they please the public taste equally well. The Behar commission concluded that indigo can be grown at a cost of 135 rupees a maund instead of 170 rupees. The indigo planters, conscious that they are engaged in a life-and-death struggle, resolved to adopt all the improvements which their own and the Government's investigations show to be useful, to endeavor to get 50 to 100 per cent. more from the acre by the use of superphosphates and other artificial manures, to plant sugar, oil-seeds, and tobacco as rotation crops, to extract 25 per cent. more dye by oxidizing the decoction with compressed air, and to plant as much as they can and send a great quantity of indigo into the market, expecting only small profits but hoping to discourage the Baden company by underselling the artificial indigo. The Bengal Government has granted 50,000 rupees a year for scientific investigations. The Behar commission was not as sanguine as the indigo planters' association that they can save their trade, which has been worth £1,500,000 a year. The commission considered the future of indigo precarious in spite of the improved methods lately introduced, and that the competition of synthetic indigo will at all events prevent any increase in the price of vegetable indigo and will affect most seriously the finest and most expensive, which is that of Behar, and cause a reduction in price which will hardly clear the planter in a good season, while in a bad season it will be ruinous.

The total value of imports by sea in the fiscal year

1900 was 962,781,650 rupees, showing an increase of 6.99 per cent. over the previous year. The total value of exports was 1,170,397,092 rupees, a decline of 2.64 per cent. from the value for the previous year, which showed an increase of 14.73 per cent. over the exports for 1898, which were the lowest in amount for many years owing to famine and plague, having fallen 3.80 per cent. below the figure for 1897, which from the same causes was 8.16 per cent. lower than the total for 1896. In the total value of imports for the year ending March 31, 1900, merchandise amounted to 753,044,805 rupees and treasure to 209,736,851 rupees, while exports of merchandise were 1,090,833,216 rupees and exports of treasure 79,563,876 rupees. Excluding Government stores and Government treasure, the imports were 707,118,634 rupees of merchandise and 209,585,132 rupees of treasure; total, 916,703,766 rupees; and the exports were 1,089,761,873 rupees of merchandise and 79,500,405 rupees of treasure. Of the exports of merchandise 1,056,836,960 rupees were products of India and 32,924,912 rupees were reexports of foreign merchandise. Of the total imports on private account, including treasure, 353,644,924 rupees were imported into Bengal, 49,193,964 into Burma, 60,822,672 rupees into Madras, 409,153,249 rupees into Bombay, and 43,888,956 rupees into Sind, and of the exports, excluding Government stores and treasure, 506,593,287 rupees in value, went out of Bengal, 101,879,290 rupees out of Burma, 120,621,320 rupees out of Madras, 376,191,605 rupees out of Bombay, and 63,676,778 rupees out of Sind. Of the total imports of bullion and specie on private and Government account 114,487,959 rupees were gold and 95,248,892 rupees silver, and of the total exports of treasure 20,081,962 rupees were gold and 59,481,914 rupees silver. Among the imports of merchandise in 1900 the value of live animals was 3,034,933 rupees, and among the exports 2,007,156 rupees; imports of articles of food and drink were 92,367,801 rupees, and exports 303,778,416 rupees; imports of hardware and cutlery were 15,902,921 rupees, and exports 167,431 rupees; imports of metals were 25,419,034 rupees, and exports 1,869,083 rupees; imports of machinery were 25,419,034 rupees, and exports 3,723 rupees; imports of railroad materials were 27,770,780 rupees, and exports 101,433 rupees; imports of drugs and chemicals were 19,314,865 rupees, and exports 123,620,111 rupees; imports of oils were 19,314,865 rupees, and exports 123,620,111 rupees; imports of raw materials for manufactures were 36,895,579 rupees, and exports 408,855,807 rupees; imports of yarns and textile fabrics were 325,803,874 rupees, and exports 149,250,156 rupees; imports of apparel were 14,643,066 rupees, and exports 1,597,207 rupees; imports of all other articles were 64,896,509 rupees, and exports 56,899,957 rupees. Of cotton manufactures the value of 294,521,259 rupees was imported; of metals, hardware, and cutlery, 62,710,471 rupees; of oil, 34,261,722 rupees; of sugar, raw and refined, 33,766,299 rupees; of railroad material and rolling-stock, 27,770,780 rupees; of machinery, 25,419,034 rupees; of woolen goods, 17,580,018 rupees; of silk, raw and manufactured, 17,059,193 rupees; of provisions, 16,882,483 rupees; of liquors, 15,974,773 rupees; of clothing, exclusive of hosiery, 14,643,066 rupees; of chemicals and drugs, 12,881,273 rupees; of spices, 9,165,229 rupees; of coal, 8,102,136 rupees; of glass, 7,666,515 rupees; of grain and pulse, 7,269,930 rupees; of dyes and tanning substances, 6,433,592 rupees; of salt, 6,119,955 rupees; of paper, 4,113,201 rupees; of umbrellas, 2,730,307 rupees. The exports of rice were 130,970,471 rupees in value; of hides

and skins, 104,628,753 rupees; of oil-seeds and other seeds, 100,995,284 rupees; of raw cotton, 99,250,646 rupees; of tea, 90,921,120 rupees; of cotton manufactures, 82,741,246 rupees; of opium, 82,037,148 rupees; of raw jute, 80,716,465 rupees; of jute manufactures, 62,643,495 rupees; of wheat, 39,094,963 rupees; of indigo, 26,925,107 rupees; of coffee, 14,847,146 rupees; of wool, 13,563,745 rupees; of gum lac, 11,366,597 rupees; of timber and wood, 10,869,202 rupees; of oils, 8,686,481 rupees; of raw silk and cocoons, 6,986,106 rupees; of provisions, 6,170,586 rupees; of spices, 5,482,956 rupees; of saltpeter, 3,842,933 rupees; of sugar, raw and refined, 3,374,305 rupees; of woolen manufactures, 2,532,550 rupees; of silk manufactures, 1,289,018 rupees. Of the exports of rice the value of 77,334,186 rupees came from Burma, 41,553,510 rupees from Bengal, and 12,082,775 rupees from Madras, Sind, and Bombay together. Bengal furnished 51,553,555 rupees' worth of opium, and Bombay 30,483,593 rupees. Of the wheat 20,629,634 rupees in value came from Sind, 8,786,208 rupees from Bengal, and 9,679,110 rupees from Bombay. Of the indigo the value of 16,350,979 rupees came from Bengal, 8,756,048 rupees from Madras, and the rest from Bombay and Sind. Of cotton the value of 68,593,628 rupees was grown in Bombay, 14,088,908 rupees in Madras, 9,415,883 rupees in Sind, 5,051,459 rupees in Bengal, and 2,100,768 rupees in Burma. Bombay raised 46,325,596 rupees' worth of seeds, Bengal 40,423,177 rupees, Sind 10,343,228 rupees, and Madras and Burma the rest. The imports from and the exports of Indian products to the principal countries in the year ending March 31, 1900, were of the following values in rupees:

COUNTRIES.	Imports.	Exports.
Great Britain.....	487,531,911	208,898,872
China.....	15,963,866	140,654,964
Germany.....	16,848,890	75,138,908
United States.....	12,421,095	76,148,793
France.....	10,258,817	66,523,716
Straits Settlements.....	19,355,717	54,921,265
Japan.....	4,999,519	63,366,643
Egypt.....	2,309,211	53,710,525
Belgium.....	18,360,307	34,115,562
Ceylon.....	6,146,102	41,772,611
Austria-Hungary.....	23,893,498	17,012,829
Italy.....	7,401,179	27,180,670
Mauritius.....	16,477,957	9,723,356
Russia.....	24,014,727	1,226,614
Australia.....	4,362,963	15,969,959
South America.....	1,607	15,788,538
Arabia.....	8,082,248	6,793,790
East Africa.....	2,929,419	9,307,827
Persia.....	8,279,332	3,659,490
Netherlands.....	3,104,761	4,259,981
Spain.....	143,183	1,717,066

The foreign trade of Calcutta in 1900 amounted to 792,396,572 rupees, that of Bombay to 564,688,280 rupees, that of Rangoon to 121,767,575 rupees, that of Karachi to 105,504,708 rupees, that of Madras to 96,534,803 rupees, and the port of Tuticorin had a trade of 20,440,157 rupees. Of the total value of merchandise imports 600,744,738 rupees came through the Suez Canal, and of the exports 652,643,770 rupees went by that route. The coasting-trade in 1900, exclusive of Government stores and treasure, amounted to 809,399,247 rupees. The imports of merchandise by the land frontiers in 1900 amounted to 61,631,387 rupees in value, and the exports to 51,068,299 rupees. Of the imports 21,739,223 rupees came from Nepal, 10,837,984 rupees from Kashmir, 6,488,729 rupees from the Shan States, 4,798,405 rupees from Bajaur, 4,324,772 rupees from Kandahar, 2,594,207 rupees from Karenni, 1,870,547 rupees from Cabul, 1,618,416 rupees from Tibet, 1,671,089 rupees from Zimme, 1,132,836 rupees from western China, 814,-

866 rupees from Khelat, 640,441 rupees from Lus Bela, 487,764 rupees from Ladakh, and 303,315 rupees from Siam. Of the exports the value of 14,970,841 rupees went to Nepal, 8,051,278 rupees to Kashmir, 7,535,423 rupees to Bajaur, 7,379,706 rupees to the Shan States, 2,818,412 rupees to Kandahar, 2,226,352 rupees to western China, 1,278,856 rupees to Tibet, 900,944 rupees to Zimbe, 625,822 rupees to Khelat, 268,678 rupees to Siam, 240,293 rupees to Ladakh, 161,358 rupees to Lus Bela, and 81,886 rupees to Karenni.

The total imports of merchandise in 1901 were valued at £53,930,000, and of treasure at £6,900,000; exports of merchandise at £69,710,000, and of treasure at £2,140,000. The imports of cotton yarn were £1,659,477 in value; of gray piece goods, £9,567,467; of white goods, £4,070,458; of colored cottons, £3,857,151. Gray goods come in increasing quantities from the United States, and French and German chintzes and prints are supplanting the English. Some American and Egyptian cotton is now imported for the spinning of finer yarns in India. Imports of woolen goods are increasing, and Germany has obtained some of this trade, while half the imports of apparel come from Austria, France, and other Continental countries. Belgium is outstripping England in important iron and steel manufactures, and Germany is encroaching on the British hardware and cutlery trade. Imports of machinery and utensils are received by preference from the United States. Imports of kerosene have been at a standstill owing partly to supplies from the Burmese wells, but mainly to poverty consequent upon famine. Whereas the United States furnished all the oil a few years ago, now the cheaper Russian oil is almost the only kind wanted.

The exports of wheat fell off from 19,520,000 hundredweight in 1899 to 9,704,000 hundredweight in 1900, and 50,000 hundredweight in 1901. The exports of rice, two-thirds of which come from Burma, reached 31,345,000 hundredweight in 1901, and but for famine prices in India a larger quantity would have been shipped. The area of cultivation in Burma is being extended to supply the increased demand in Bengal, which consumes the whole of its own great crop. The demand for jute all over the world is increasing, and the crop area in Bengal is consequently being enlarged. The jute exports in the year ending March 31, 1901, were 12,414,550 hundredweight, valued at £7,245,170, an increase of 28 per cent. in quantity and 35 per cent. in value. The capacity of the jute-mills has been enlarged, and the exports of jute manufactures reached the value of £5,243,000. The United States took a larger quantity of raw jute and half the product of jute cloth, but fewer bags. The cotton-crop was poor, and exports of raw cotton fell from 4,373,500 hundredweight in 1900 to 3,575,700 hundredweight. The crop in 1900 was only 760,000 hundredweight, owing to drought; in 1901 the acreage was diminished, and the crop was 2,032,000 hundredweight. Japan, which took American cotton in 1901, is expected to return to the cheaper product of Bombay, which has deteriorated in quality because the ryots use poor seed, but the industry is to be improved with Government encouragement by the selection of seed, better processes of cleansing and packing, and the manufacture of oil and oil-cake. The cotton-manufacturing industry in Bombay has been depressed since 1896, and many mills ceased working. The production of yarn was only 342,780,000 pounds in 1901, compared with 501,680,000 pounds in 1900. Japanese competition is the most serious difficulty, but man-board decides that it is dangerous or unhealthful.

per cent. of American or Egyptian cotton with the domestic staple and are beginning to see better times. The export of £15,170,000 worth of hides and skins in the last two famine years, against £10,200,000 worth in the famine years 1896 and 1897, is an indication of the effects of the drought in destroying cattle. The United States took 83 per cent. of the raw, Great Britain the bulk of the dressed and tanned hides. Exports of opium in 1901 were 69,708 chests, valued at £6,303,625, a temporary improvement due to circumstances affecting the Chinese crop. The exports of indigo declined still further in 1901 to 102,000 hundredweight, valued at £1,423,987, 27 per cent. below the value exported in the previous year. The exports of tea have grown from 157,470,672 pounds in 1899, valued at £5,363,203, to 175,038,127 pounds, valued at £6,061,408 in 1900, and 190,305,490 pounds, of the value of £6,367,287 in 1901, showing an increase of 21 per cent. in total weight in two years, but a decline in prices due to excessive production and to the inferior quality of tea produced, especially in areas just brought under cultivation. The abundant crop of 1901, which showed continued deterioration in quality, served to further disorganize the glutted market, which received a staggering blow when England enhanced the tea duty. The exports of oil-seeds, owing to bad crops, fell from 19,279,909 hundredweight in 1899 to 10,997,947 hundredweight, and the value from £7,898,130 to £6,009,357, Russian and Argentine competition causing a fall in price, not in line, the quantity of which decreased 44 per cent., and that of rape-seed 50 per cent., while in castor-seed and poppy-seed the decline was slight.

The imports of gold in the year ending March 31, 1901, were £7,932,000, and exports £7,370,060, of which £4,500,000 were on Government account. The imports of silver were £8,452,000, of which £5,391,000 were for the Government, and the exports were £2,113,000.

Navigation.—The number of vessels in the foreign trade entered during the year ending March 31, 1900, at ports of British India was 4,395, of 4,470,348 tons, of which 2,299, of 3,650,004 tons, were British; 571, of 72,690 tons, were British Indian; 670, of 691,897 tons, were foreign; and 855, of 55,757 tons, were native. The number cleared was 4,133, of 4,157,138 tons, of which 2,182, of 3,389,763 tons, were British; 528, of 68,596 tons, were British Indian; 602, of 644,723 tons, were foreign; and 821, of 54,056 tons, were native. Of the vessels entered 643, of 1,662,030 tons, were steamers that passed through the Suez Canal, and of those cleared 875, of 2,132,830 tons. The number of vessels entered with cargoes in the interportal trade was 101,832, of 10,534,054 tons; cleared, 96,053, of 10,674,285 tons. The number of vessels built in British India during the fiscal year 1900 was 62, of 2,058 tons; the number first registered was 103, of 12,558 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in India in 1900 was 23,763 miles, of which 5,724 miles were state lines worked by the Government, 11,364 miles were state lines worked by companies, 2,612 miles were lines worked by guaranteed companies, 1,415 miles were lines worked by assisted companies, 1,327 miles were lines belonging to native states leased to companies, 156 miles were lines belonging to native states worked by the Indian State Railroad Agency, 1,091 miles were lines owned and worked by native states, and 73 miles were foreign lines. The capital expended on Indian railroads, including unfinished lines and surveys, amounted to the end of 1899 to 3,111,685,620 rupees, of which 1,808,-

431,230 rupees were in the Government railroads, 443,002,150 rupees in the lines built by the state and leased to companies, 523,116,640 rupees in the guaranteed railroads, 154,825,880 rupees in the lines of assisted companies, 156,719,150 rupees in the lines belonging to native states, 17,590,320 rupees in the lines belonging to foreign governments, 2,897,540 rupees in coal-mines, and 5,102,710 rupees were the cost of surveys. The capital raised by the guaranteed companies amounted to £47,237,405 sterling, and the capital raised for state lines leased to companies was £29,892,027. The gross receipts of all the railroads in 1899 were 294,318,280 rupees, compared with 274,642,350 in 1898. The number of passengers carried in 1899 was 162,944,867, paying 92,258,550 rupees; tons of freight, 40,598,520, paying 192,374,860 rupees. The operating expenses were 140,194,090 rupees, being 47.63 per cent. of the gross earnings. The net earnings amounted to 154,124,190 rupees, paying 5.36 per cent. on the capital of lines in operation. On May 1, 1901, the total length of open railroads was 25,125 miles, 4,037 miles having been added since the beginning of 1898. The number of passengers rose to 175,000,000 in 1900, and the freight traffic to 43,500,000 tons. The Government for the first time realized a surplus revenue over expenditure, which amounted to 8,375,000 rupees. Expenditure is still heavily weighted by the terms of the contracts with guaranteed companies, whose lines will gradually be taken by the state as these contracts expire. One important line, the Great Indian Peninsular, was absorbed by the Government in 1900.

The number of letters, postal cards, and money-orders that passed through the post-office of British India during the year ending March 31, 1899, was 431,012,691; newspapers, 32,122,502; parcels, 3,040,236; packets, 23,039,424. The revenue was 19,140,670 rupees; expenses, 17,254,130 rupees.

The telegraph-lines belonging to the Indian Government had at the end of 1899 a length of 51,769 miles, with 160,650 miles of wire. The number of paid despatches during the fiscal year was 5,448,600; receipts, 10,808,200 rupees; expenses, 10,269,600 rupees.

Legislation and Government.—The reforms with which Lord Curzon seeks to mark his administration are a sound frontier policy which is not the policy of inaction followed by Lord Lawrence, nor the forward policy of later viceroys; the constitution of the best form of administration for the frontier districts; the remedying of the abuse of frequent transfers of civil officers under the rules regarding leave, good administration being impossible without continuity, intelligent administration with local knowledge or popular administration without personal interest, hence a reform of the leave rules will tend greatly to mitigate the evils resulting from the constant shifting of officers before they have acquired the confidence of the people; the correction of the abuse of interminable writing which divorces the officer from his proper work, the tyranny of the pen being more to be feared in India than tyranny by the executive authority; the reform of the currency system, which seems already to have brought stability; the railroad policy, railroads being the most unifying agency in India and a blessing to the country, for arguments that they carry off food supplies and raise prices involve a fallacy; irrigation that will insure for each province the sources of water-supply best suited to its demands, which the Government is ready to proceed with as soon as engineers investigate and report whether it shall be by canals, tanks, or wells; the remedying of agricultural indebted-

ness, a problem which meets the Government everywhere in increasing volume and seriousness, a beginning being made with the Punjab land alienation bill which a part of the native press has censured, although it was based solely on considerations for the public interest; the reduction of the telegraphic tariff between India and Europe to 1s. a word, which will probably come when Great Britain is mistress of her own principal lines of cable communication; the new rules to govern the relations between soldiers and natives, in framing which the civil and military authorities were in perfect accord, their object being to draw closer the bonds of friendly feeling between the two races.

The report of the Indian Famine Commission approves the basis of the famine code of 1880 and holds that the more liberal wages and freer extension of gratuitous relief recommended by the commission of 1898 tended toward extravagance, and the object of saving life and giving protection from extreme suffering may be better secured if care be taken to prevent the abuse and demoralization which are the consequence of ill-directed and excessive distribution of charitable relief. The last famine resulted in the loss of 4,000,000 head of cattle. The expense of relief exceeded £10,000,000, and in May, 1901, the Government still had 400,000 persons on its hands. To induce people to return to their ordinary vocations the relief commission under Sir Antony Macdonnell raised their tasks and ceased the distribution of gratuitous relief to the able-bodied after the break of the monsoon. The early monsoon in 1901 was not abundant, though sufficient to enable agricultural operations to be carried on; the late monsoon was almost a failure. The number of persons who died during the famine year in British India was 1,000,000, three-fourths of them in the Bombay Presidency, and in native states 250,000. The terrible mortality in Gujerat was partly due to an epidemic of cholera, that in Ajmere to virulent autumnal fever. The mortality both from cholera and starvation could, however, have been kept within bounds if the local officers had distributed gratuitous relief as soon as the existence of famine was recognized and had seen that all received it who were entitled to it when it was distributed. The liberal distribution of relief saved a great number of lives in the Central Provinces and kept the rate of mortality low in the autumn. Village relief will in the future be the chief means of using famine labor. The Government will not adopt a lower scale of wages unless the local administrations concur. The commission does not advise the Government to relinquish any of the land revenue, which is considered low compared to the share of the produce to which the Government is entitled by the tradition of the country. It is estimated at from 5 to 7 per cent. of the average value of the crops, exceeding the latter figure only in some parts of the Punjab and in the richer districts of Bombay, where 20 per cent. is collected by the Government. In seasons of deficient crops the people have to borrow to pay their land tax in cash because they spend their income in favorable seasons. Elasticity in the collection of land revenue is recommended, also the establishment of agricultural banks, the encouragement of land improvements, expenditure of state funds in irrigation works, and attention to measures for increasing the knowledge and thrift of cultivators. The Government has already studied the development of village credit associations, and a wide extension of irrigation works. The question of irrigation extension has been studied in each province by engineers spe-

cially commissioned for the purpose. The census shows a large increase in population wherever irrigation canals exist. Sir Colin Scott-Moncrieff has been placed at the head of a commission that will lay down rules for the interlacing, encouragement, and control of irrigation works. Of the existing large productive works 22 realized in 1901 a net revenue of 9.52 per cent. on the capital investment, while 13 others yielded only 0.79 per cent., the average of all being 7 per cent. There was an increase of 750,000 acres in the irrigated area during the year. The great Jehlum Canal, opened in October, 1901, irrigates a vast tract, part of which has lain waste, between the Jehlum and Chenab rivers. Other large projects are being carried out in the Punjab. Since irrigation was undertaken by the Government the works have yielded a surplus revenue of nearly £10,000,000 aside from their economic value and the increased land revenue obtained from waste tracts brought under cultivation. The famine relief officers were handicapped by having no programs of public and village works. Advances for the construction of temporary and the repair of permanent wells and village improvements were not made at a sufficiently early stage or were inadequate in amount. The test works for gaging the existence or the pressure of distress were not appreciated, and in Bombay were converted too late into regular relief works. Payment by results is found to be a better method on relief works than a minimum wage suggestive of Government employment.

The bubonic plague appears to have become endemic throughout the greater part of India. When the fall rains of 1901 began in August the mortality rose to between 1,500 and 2,000 a week. The number of deaths reported from the first visitation in the winter of 1896 to March 31, 1901, was 480,000, and the unreported deaths would make the total over 600,000 at the least computation. The disease has entered nearly a tenth of the villages of India. In the winter of 1900 there were widely extended outbreaks in the Behar districts of Bengal and in the Northwestern Provinces and recrudescences in western India and elsewhere. Little has been learned regarding the causation of the plague or the manner in which it spreads. The compulsory methods adopted by the Government when the pestilence first appeared, which drove the people to conceal cases and to flee from Bombay in all directions, carrying the germs of infection into the country districts, have been abandoned, and now the people often cooperate with the sanitary authorities and voluntarily adopt preventive precautions. They resort in increasing numbers to the Haffkine antiplague serum inoculation, which the plague commission approve as not injurious to the general health of the patient and generally, though not invariably, affording protection for five or six months.

A mines bill which has been under discussion for two years was intended to prohibit the labor of children and to restrict and regulate the employment of women. The mine-owners contended that this would interfere with the family system of labor which has obtained from time immemorial. It was regarded as a measure forced upon India in fulfillment of pledges undertaken by the English Government at the Berlin Labor Conference of 1890, if it was not indeed designed to cripple the infant coal-mining industry of India for the benefit of English mine-owners. The bill was modified so as to permit the employment of women and children except in mines where the Government after consultation with a mining board decides that it is dangerous or unhealthful

A labor bill compelling tea-growers to pay coolies higher wages in the second and third years of their engagement was made operative only after two years in view of the depressed state of the tea industry, which is so critical that nearly three-fourths of the companies have passed their dividends. The construction of the great Gokteik Viaduct, 2,260 feet long and 320 feet high, in the railroad from Mandalay into the Shan States by an American company drew forth but few protests because no British contractor was willing to build the bridge in less than twice the time or for less than twice the price. American engines were ordered for Indian railroads about the same time, and American rails were imported. The railroad in Upper Burma was begun with the object of tapping the trade of Yunnan, but although a French line is being built into that Chinese province the British line is not likely to go beyond Thibaw, half-way to the frontier. Development in another direction is being followed up by means of railroads connecting the ports of Bassein and Moulmein with Rangoon. The mountainous frontier of Yunnan can not be crossed by a railroad except at enormous expense. The Kachin tribes which inhabit these mountains are constantly at war among themselves. The Chinese Kachins make raids across the frontier, and the Kachins of Burma have applied in vain at Mandalay for protection.

The northwestern frontier districts beyond the Indus inhabited by Pathan tribes, the scene of all the costly and indecisive frontier wars, the hill states and tribes which were accounted a part of Afghanistan until the British Government first declared them independent and then proceeded to conquer them and annex them to India, have been detached from the Punjab and constituted into a separate province under the direct control of the Central Government. A new policy toward the frontier tribes was inaugurated when Lord Curzon arrived in India and ordered the withdrawal of the advanced posts. The place of the British troops was taken by tribal levies, and the British posts commanding Samana, Tochi, and Wana were still held in the spring of 1901 until the Pathan recruits could be organized. The Northwest Frontier Province, of which Col. Deane was appointed chief commissioner in October, embraces the four districts of the Punjab lying beyond the Indus, viz., Peshawar, Kohat, Bannu, and Dera Ismail Khan, with the tribal country beyond their limits, Hazara, and also the political agencies of Dir, Swat, Chitral, the Khaibar, the Kuram, Tochi, and Wana. Lord George Hamilton was induced after a long correspondence to agree to Lord Curzon's plan of forming a frontier province, having proposed before Lord Elgin retired from the viceroyalty in 1899 that the commissioner at Peshawar should be under the Government of India as regards political relations with the frontier tribes while remaining under the Punjab Government as regards administrative functions, a proposal that frontier administrators condemned as being likely to create confusion and friction. The Northwest Frontier Province was started on Nov. 1. Meanwhile there was a disturbance among the Pathan tribes on the unsettled border of Waziristan. The Mahsuds and the Darwesh Khel Waziris have raided their neighbors for years and have several times come into collision with the British authorities. Fines have been imposed, but they would not pay, and to enforce them proved difficult and expensive. The experiment of trying to rule the wild tribes by the Sandeman system, which has succeeded in Baluchistan, the method of subsidizing the head

men and raising local militia for the preservation of order, proved a failure because neither head men nor local militia, though willing to take the pay of the Government, would lift their hands to restrain, much less to punish their fellow tribesmen, for if the tribal levies shot at their brethren they committed a grave offense against the Pathan code of honor and invited blood feuds against themselves and their relatives. On Dec. 1, 1900, a new policy was put into operation. The tribe which did not pay fines due was subjected to a stringent blockade. The Mahsud tribe being delinquent, all Mahsuds residing in British territory were compelled to return to their homes, and trade or intercourse with Mahsud territory was prohibited. The stoppage of subsidies and the blockade caused much distress. The tribe surrendered firearms and paid three-fourths of the fine of a lakh of rupees, giving up their cattle; but when the Government insisted that the remainder must be paid in cash, they could not or would not raise the money, and hostilities broke out. The Mahsuds began to raid across the border in July. They attacked the Sikh garrison at Jandola and different militia posts, compelling the one at Kashmir Kar, in the Gomal pass, to surrender. The military authorities were informed of the impending hostilities before the outbreak, and a force of Sikhs advanced to block the Sarakwai passes without much success. Raiders wrecked the telegraph-line and attacked military detachments and parties of civilians wherever they were found traveling through the country.

The efforts of the Russians to establish relations with Tibet drew the attention of the Indian Government from the northwestern to the north-eastern frontier. Trade between Tibet and India through Ladakh, in Kashmir, had declined or passed into the hands of the French and Germans, who sent imitation Kashmir shawls into Tibet. The attempts formerly made to establish political relations with the Lamas by opening the route through Sikkim failed, but the trade secured by the opening of a market in 1890 at Yatung, on the Tibetan frontier, has grown slowly, amounting to 823,000 rupees for imports and 963,000 rupees for exports in 1899, the exports to Tibet consisting largely of German goods, the imports being coarse wool to be woven into carpets and blankets in England and the United States, musk, and fine wool, lambskins, and woolen cloth destined for China, the trade being carried on by Chinese merchants. In case of political developments in Tibet the Indian Government is prepared to send troops into the Chinese dependency both by the Sikkim route, which has been reconnoitred, or through Kashmir or Nepal.

INDIANA. (See under UNITED STATES.)

IOWA. (See under UNITED STATES.)

ITALY, a kingdom in southern Europe. The throne is hereditary in the line of Savoy by male descent in the order of primogeniture. The reigning King is Vittorio Emanuele III, born Nov. 11, 1869, only son of Umberto I of Italy and Queen Margherita, daughter of Prince Ferdinando of Savoy. King Vittorio, who succeeded to the throne in consequence of the assassination of his father on July 29, 1900, married, on Oct. 26, 1896, Princess Helena, daughter of the reigning Prince of Montenegro. The legislative authority is vested in the Parliament, consisting of a Senate, containing 334 members in 1899, who are nominated for life by reason of public services or eminence in science, literature, or other pursuit tending to the benefit of the nation, and a Chamber of Deputies containing 508 members, 1 to 57,000 of

population, elected by all adult male citizens who can read and write and who pay 20 lire of direct taxes or occupy land or a tenement or place of business of a certain minimum renting value. Soldiers in active service have no votes, and public officials, excepting ministers and under-secretaries of state, certain superior functionaries, military and naval officers, and clergymen with cures, are not eligible. The duration of Parliament, unless previously dissolved, is five years.

The Cabinet constituted on June 24, 1900, and holding office at the beginning of 1900, was composed as follows: President of the Council and Minister of the Interior, Giuseppe Saracco; Minister of Foreign Affairs, Marchese Visconti Venosta; Minister of War, Lieut.-Gen. Conte Coriolano Ponna di San Martino; Minister of Marine, Vice-Admiral Constantini Enrico Morin; Minister of Justice, E. Gianturco; Minister of Finance, B. Chimirri; Minister of the Treasury, G. Rubini; Minister of Public Works, A. Branca; Minister of Public Instruction, N. Gallo; Minister of Agriculture, Industry, and Commerce, P. Carcano; Minister of Posts and Telegraphs, A. Pascolato.

Area and Population.—The area of Italy, as determined by a recent Government survey, is 110,646 square miles. The population as determined by the census of Feb. 9, 1901, was 32,045,404, an increase of 4,000,000 since the census of Dec. 31, 1881. The number of marriages in 1899 was 235,665, against 219,597 in 1898; of births, 1,088,558, against 1,070,074; of deaths, 703,393, against 732,265; excess of births, 385,165, against 337,809. The number of emigrants in 1899 was 308,339, of whom 162,899 went to other countries in Europe, 63,156 to the United States, 46,648 to the Argentine Republic, Uruguay, and Paraguay, 26,574 to Brazil, 4,566 to northern Africa, 1,267 to Central America, 1,021 to Canada, 860 to parts of America not specified, 408 to Chile and Peru, and 940 to other countries. Of the total number of emigrants 20,911 went from Piedmont, of whom 12,013 were temporary; 3,473 from Liguria, 159 of them temporary; 19,266 from Lombardia, 12,449 declaring their emigration temporary; 114,228 from Liguria, 109,319 being temporary; 18,389 from Emilia, 14,885 being temporary; 15,409 from Toscana, 10,756 being temporary; 7,193 from the Marches, 1,784 of them temporary; 1,096 from Umbria, 760 of them temporary; 1,489 from Lazio, of whom 981 were temporary; 17,522 from Abruzzi and Molise, of whom 1,187 were temporary; 34,414 from Campania, of whom 7,572 were temporary; 3,653 from Puglie, of whom 662 were temporary; 8,906 from Basilicata; 17,713 from Calabria; 24,604 from Sicilia, of whom 4,443 declared their absence temporary; and 73 from Sardegna, of whom 61 were temporary; total 308,339, including 177,031 temporary emigrants. The population of the chief towns at the close of 1899 was: Naples, 544,057; Rome, 512,423; Milan, 492,162; Turin, 359,295; Palermo, 292,799; Genoa, 237,486; Florence, 216,051; Bologna, 158,975; Venice, 157,785; Messina, 156,552. The increase in population in twenty years as shown by the census was greatest in the Lazio, or Roman district, where it amounted to 17.5 per cent.; next greatest in Liguria, where the rate was 11.1 per cent.; in Sicily next, with an increase of 10.7 per cent.; and in Sardinia, with 8.2 per cent. increase.

Finances.—The budget estimate of revenue for the year ending June 30, 1901, was 1,726,421,692 lire. The ordinary receipts were estimated at 1,709,035,623 lire, and the extraordinary receipts at 17,386,069 lire. The ordinary expenditures were estimated at 1,628,951,044 lire, and extraor-

dinary expenditures at 101,361,498 lire; total expenditures, 1,730,312,542 lire. The revenue from railroads and state property was reckoned at 99,393,045 lire, of which railroads produced 86,576,200 lire, state property 11,260,235 lire, and various sources 1,556,610 lire; direct taxation, 479,276,500 lire, made up of 286,496,500 lire from income tax, 103,380,000 lire from the land tax, and 89,400,000 lire from the tax on buildings; taxes on transactions, 221,805,000 lire, including 67,900,000 lire from stamps, 61,500,000 lire from registration, 21,030,000 lire from the tax on railroad receipts, 37,000,000 lire from succession duties, 12,000,000 lire from the tax on operations of banks and commercial companies, 7,500,000 lire from the duty on mortgages, 8,000,000 lire from various concessions, 6,200,000 lire from mortmain revenues, and 675,000 lire from consular fees; customs, monopolies, and excise, 682,965,000 lire, of which 197,000,000 lire came from the tobacco monopoly, 75,500,000 lire from salt, 51,865,000 lire from octrois, 60,100,000 lire from duties on the manufacture of beer, spirits, mineral waters, gunpowder, and sugar, 67,500,000 lire from the lottery, and 232,000,000 lire from customs; public services, 100,417,697 lire, of which 64,000,000 lire came from the post-office, 15,300,000 lire from telegraphs, 7,200,000 lire from school fees, 5,909,000 lire from prisons, 1,460,000 lire from fines, 2,500,000 lire from assays, 1,900,000 lire from land registry, and 2,148,697 lire from various services; repayments, 23,642,182 lire; various departmental receipts, 26,586,500 lire; domains, 15,617,648 lire; interest on invested funds, 18,297,024 lire; communal contributions of Rome and Naples, 28,045,230 lire; miscellaneous receipts, 12,989,797 lire. Of the extraordinary receipts 4,103,113 lire came from recovery of debts, 589,671 lire from various effective sources, 151,307 lire were on account of railroad construction, 12,541,978 lire from movement of capital, 5,723,840 lire from sales of state property, and 6,818,138 lire from various other sources. The expenditures were 477,495,276 lire for interest on the consolidated debt, 60,356,135 lire for extinguishable debts, and 26,464,457 lire for the annuity for the purchase of railroads in northern Italy; 121,303,782 lire for interest on floating debt, including 15,949,005 lire on treasury bonds, 15,528,000 lire due to railroad companies, 81,264,261 lire on railroad guarantees, 4,363,400 lire on accounts current; and 4,199,116 lire for various floating liabilities; 16,050,000 lire for the civil list and appanages; 6,021,000 lire for pensions; 2,155,000 lire for the Senate and Chamber of Deputies; 9,947,912 lire for general expenses of the Ministry of the Treasury; 975,697 lire for various services; 3,500,000 lire for a reserve for unforeseen expenses; *recettes d'ordre*, 20,758,617 lire, including 18,297,024 lire for the service of the amortizable debt and 1,967,297 lire for interest; and 494,296 lire on account of domains; 23,089,542 lire for extraordinary expenditures of the Ministry of the Treasury; 29,131,713 lire for general expenses of the Ministry of Finance, including 9,068,286 lire for general administration, 12,577,000 lire for pensions, 1,505,300 lire for various services, and 5,981,127 lire for the cadastral survey; 156,882,818 lire for cost of collecting revenues and of monopolies, lotteries, etc.; 29,928,661 lire for expenditure *d'ordre*; 7,320,956 lire for extraordinary expenditures of the Ministry of Finance; 16,270,105 lire for the Ministry of Foreign Affairs, 16,246,105 lire being for ordinary and 24,000 lire for extraordinary expenses; 47,474,952 lire for the Ministry of Education, 46,572,158 lire being for ordinary and 902,794 lire for extraordinary expenses; 40,977,897 lire for ordinary and 21,798 lire

for extraordinary expenses of the Ministry of Justice; 71,190,336 lire for the Ministry of the Interior, 12,003,276 lire being for general administration, 7,705,000 lire for pensions, 1,001,012 lire for sanitary service, 16,420,895 lire for police, 27,897,970 lire for prisons, 949,460 lire for various services, 1,431,625 lire for expenditure *d'ordre*, and 3,721,097 lire for extraordinary expenses; 38,732,363 lire for ordinary and 51,456,333 lire for extraordinary expenditure of the Ministry of Public Works; 66,298,694 lire for the Ministry of Posts and Telegraphs, 65,922,178 lire being for ordinary and 376,516 lire for extraordinary expenses; 271,159,678 lire for the Ministry of War, 264,893,678 lire being for ordinary and 6,266,000 lire for extraordinary expenses; 122,384,671 lire for the Ministry of Marine, 117,408,191 lire being for ordinary and 4,976,480 lire for extraordinary expenses; 12,964,149 lire for the Ministry of Agriculture, Industry, and Commerce, 9,758,167 lire being for ordinary and 3,205,982 lire for extraordinary expenses. The ordinary revenue shows a surplus of 80,084,579 lire over ordinary expenditures, but the extraordinary receipts are 83,975,429 less than the extraordinary expenditures, giving a net deficit of 3,890,850 lire. The effective receipts are 26,634,783 lire in excess of the expenditure in the same category, while the account for the construction of railroads shows only 151,307 lire of receipts and 18,578,403 lire of expenditures, and in the movement of capital the expenditure exceeds receipts by 12,098,537 lire. The direct taxes in Italy are exceedingly high. The income tax is 20 per cent., and the full tax is collected on Government bonds, but in the case of incomes from trade and industry only half the income is assessed, nine-twentieths when it is derived from professions, three-eighths in the case of officials, and three-fourths when the income is derived from corporations. The tax on buildings is 12½ per cent. of the annual taxable value, which is two-thirds of the actual rental in the case of factories and three-fourths in that of dwelling-houses. The actual receipts of the treasury for the year ending June 30, 1901, were 1,685,174,500 lire, and expenditures 1,679,890,000 lire. The revenue had steadily expanded for four years. The national debt absorbs 48 per cent. of the entire revenue. The debt accumulated during the period of Italian unification, chiefly by taking over the debts of the component states, has been a heavy load. Prior to 1861 a debt of 3,500,000,000 lire existed. The greater part of the debt has been expended on railroads, roads, posts, and other productive works. A large share of this, however, was unjustly assumed in the railroad conventions of 1885, and wastefully contracted for electoral purposes between 1880 and 1886. The abolition of the grist tax and the imposition of a multitude of protective duties and other indirect taxes disturbed the equilibrium, and the military expenditures incurred in consequence of the French occupation of Tunis, as well as the normal charges assumed as a great power and a member of the Triple Alliance, brought on a period of deficits which greatly added to the debt from before the commercial crash of 1893 until the equilibrium was restored in 1896. The public debt in 1899 amounted to 12,256,198,652 lire. The interest in 1900 was 589,095,616 lire, of which 400,520,809 lire were paid on 5-per-cent., 59,059,902 lire on 4½-per-cent., 7,685,884 lire on 4-per-cent., and 4,408,530 lire on 3-per-cent. rentes; 12,178,697 lire on debts separately inscribed, bearing from 3 to 5 per cent. interest; 90,566,794 lire on various other debts, bearing from 3 to 6 per cent. interest; 11,050,000 lire on the floating debt; and 3,225,000

lire were the permanent annuity due to the Holy See. The annual sinking-fund amounted to 2,449,587 lire. The state property was estimated to be worth 4,655,900,500 lire, consisting of assets in the treasury to the amount of 729,975,304 lire, movable and immovable property, loans, and securities valued at 507,855,103 lire, property of an industrial nature estimated at 1,352,492,914 lire, military and naval property estimated at 1,402,372,779 lire, property used in the service of the state estimated worth 445,048,848 lire, and scientific and artistic material valued at 218,155,552 lire. The revenue from state property in 1899 was 84,048,921 lire from railroads, 1,728,538 lire from ecclesiastical property, 8,322,418 lire from fixed capital, 2,880,159 lire from canals, and 2,307,266 lire from various capitals; total revenue from capital, 99,287,102 lire. The national debt on June 30, 1900, amounted to 12,881,500,000 lire. The Italian rentes were formerly held largely abroad, but in recent years Italians have absorbed most of the foreign holdings.

The Army.—The military law of June 28, 1897, provides that young men drawn by lot for service remain two or three years under arms, except carabinieri and non-commissioned officers, who stay with the army five years. Men of a second category are called out for training two to six months, and are then attached to the permanent army eight or nine years with unlimited leave of absence. Men of a third category are inscribed in the territorial militia, receiving thirty days of training. In 1898 there were 361,654 recruits examined at the completion of their twentieth year, of whom 84,584 were put back, 72,495 were found unfit for service, 106,943 were assigned to the first category, 233 to the second, and 97,399 to the third. The permanent army in June, 1899, had under arms 13,643 effective officers, 275 officers on half pay, 23,749 carabinieri, 119,175 infantry, 14,072 bersaglieri, 11,665 Alpine troops, 9,953 men in the military districts, 24,328 cavalry, 33,284 artillery, 8,994 engineers, 1,438 in the military schools, 2,614 in the sanitary corps, 1,952 in the commissariat, 161 in the invalid and veteran corps, 2,321 in the penal establishments, and 381 in the remount depots; total 13,918 officers and 254,087 men. There were 11,504 officers on unlimited leave in the permanent army, and the mobile militia and the territorial army had besides 4,233 effective and 6,254 reserve officers. The troops on unlimited leave in the permanent army numbered 571,254, and those of the mobile militia 304,587, and the territorial army had 2,106,233 men, making the total war strength of the army 3,272,070 men of all ranks. This does not include the special African corps, which in 1900 numbered 6,780 regular troops, including 5,457 natives and 768 irregulars.

The Navy.—The Italian navy in the spring of 1901 had 3 effective battle-ships of the first- or second-class, 8 armored cruisers, 4 third-class battle-ships, 5 old ones that were still effective, 12 protected cruisers, 15 torpedo gunboats, 5 destroyers, 11 first-class, 100 second-class, and 71 third-class torpedo-boats, and 1 submarine boat. The *Ammiraglio di Saint-Bon* and *Emmanuele Filiberto*, of 9,800 tons, the latest completed battle-ships, have a 10-inch steel belt and 3-inch protective deck, engines of 13,500 horse-power, giving a speed of 18 knots, and an armament consisting of 4 10-inch guns mounted in turrets and 8 6-inch and 8 4.7-inch quick-firing guns. The turret ships *Regina Margherita* and *Benedetto Brin*, of 13,500 tons, not fully ready for sea, have 8-inch Terni armor, engines of 18,000 horse-power, designed to make 21 knots, and an armament of 4 12-inch, 4

8-inch quick-firing, 12 6-inch quick-firing, and 8 3-inch quick-firing guns. The *Regina Elena* and *Vittorio Emmanuele*, not yet launched, will have a displacement of 12,625 tons, engines of 20,000 horse-power, intended for a speed of 22 knots, and an armament of 2 12-inch guns in turrets, and 12 8-inch and 12 3-inch quick-firers. Their protection is a 10-inch Terni belt, 10 inches on the turrets, 8 inches on the bulkheads, and 6 inches on the secondary battery, impervious to shells at every point. A new naval program has been adopted, to cost 419,000,000 lire spread over twelve years. From 1901 to 1904 the vessels already begun will be completed, and 5 10,000-ton armor-clads built at a total cost of 203,000,000 lire, the projected vessels to cost 24,000,000 lire each; between 1904 and 1909 5 more armor-clads of about the same size and strength are to be built, with 1 smaller one, 2 auxiliary vessels, and 11 torpedo-boats to take the place of obsolete ones, the whole to cost 139,000,000 lire; and between 1909 and 1912 various obsolete vessels will be replaced at a cost of 77,000,000 lire.

Commerce and Production.—The production of wheat in 1899 was 48,600,000 hectoliters; of corn, 31,200,000 hectoliters; of wine, 31,800,000 hectoliters; of olive-oil, 920,000 hectoliters; the number of citrus fruits gathered, 4,050,000,000. There were 4,936 hectares planted to tobacco in 1898. Silk culture employed 550,048 persons in 1895, and 172,000 persons were employed in spinning and weaving silk. The average annual production of cocoons is 50,000,000 kilograms; of silk, 4,465,000 kilograms. There were 40,143 cattle exported and 16,855 imported, 35,584 sheep exported and 5,217 imported, 1,019 goats exported and 2,942 imported, and 73,391 hogs exported and 1,582 imported in 1899. The forests cover 4,093,000 hectares, and their products are estimated to be worth 88,000,000 lire a year. The value of agricultural and horticultural products is 2,647,000,000 lire; of animal products, 1,424,000,000 lire. The production of iron ores in 1898 was 190,110 metric tons; of manganese ore, 3,002 tons; of ferro-manganese, 11,150 tons; of copper ore, 95,128 tons; of zinc ore, 132,099 tons; of lead ore, 33,930 tons; of silver ore, 435 tons; of gold ore, 9,549 tons; of antimony ore, 1,931 tons; of quicksilver ore, 19,201 tons; of iron and copper pyrites, 67,191 tons; of mineral fuel, 341,327 tons; of sulfur ore, 3,362,841 tons, valued at 40,375,152 lire; total value of mineral products, 71,804,000 lire; value of marble quarried, 15,000,000 lire. The number of fishing vessels and boats at the end of 1898 was 23,578, of 68,654 tons, of which 184, of 1,215 tons, were engaged in the coral fisheries. There were 83,834 fishermen, of whom 6,554 were engaged in deep-sea and foreign fishing.

The total value of special imports of merchandise in 1899 was 1,506,561,188 lire, and of special exports 1,437,416,398 lire. The imports of precious metals were 5,529,700 lire, and exports 15,845,900 lire. The imports of coal were 150,646,236 lire in value; of raw cotton, 107,951,992 lire; of silk, raw and twisted, 102,406,700 lire; of wheat, 90,755,020 lire; of machinery, 61,162,974 lire; of wool, 51,785,750 lire; of timber, 43,585,786 lire; of hides, 41,096,385 lire; of fish, 30,364,633 lire; of horses, 29,541,600 lire; of leaf tobacco, 19,138,193 lire; of raw sugar, 17,058,272 lire; of bar iron and steel, 15,733,694 lire; of olive-oil, 15,202,708 lire; of refined mineral oil, 14,992,047 lire; of coffee, 12,774,160 lire; of linen and hemp yarn, 10,756,030 lire; of cheese, 5,356,935 lire; of cotton yarn, 4,717,365 lire; of indigo, 3,985,000 lire; of railroad materials, 2,133,755 lire; of silkworm eggs, 1,957,500 lire; of printed cottons, 1,903,730 lire; of cot-

tons, colored and dyed, 1,394,605 lire; of bleached cottons, 1,030,120 lire; of unbleached cotton, 443,640 lire; of refined sugar, 203,796 lire. The exports of raw and thrown silk were 419,120,000 lire in value; of wine in casks, 66,993,141 lire; of olive-oil, 55,738,380 lire; of eggs, 43,937,010 lire; of sulfur, refined and unrefined, 43,461,876 lire; of hemp and flax, 36,906,589 lire; of silk waste, 34,125,650 lire; of manufactured coral, 30,674,880 lire; of skins, 22,188,928 lire; of marble, 18,482,948 lire; of fresh and salted meat, 18,451,375 lire; of zinc ore, 16,812,840 lire; of rice, 13,521,495 lire; of cattle, 12,205,170 lire; of straw plaiting, 9,264,000 lire; of dyes and tan, 9,231,604 lire; of hogs, 5,380,850 lire; of grain, 4,561,105 lire; of cocoons, 3,336,820 lire; of cotton, 1,644,228 lire; of horses, 990,500 lire; of lead ore, 594,510 lire. The value of reexports in 1899 was 32,922,000 lire; of the transit trade, 132,287,000 lire.

The special trade in merchandise with the principal foreign countries in 1899 is given in lire in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain.....	299,537,000	147,958,000
Germany.....	193,964,000	236,107,000
France.....	152,330,000	201,293,000
Austria-Hungary.....	160,848,000	158,698,000
Switzerland.....	49,337,000	246,618,000
United States.....	169,414,000	118,304,000
India, etc.....	73,999,000	28,420,000
Argentine Republic.....	27,168,000	60,574,000
Turkey and Balkans.....	43,416,000	35,051,000
Belgium.....	36,884,000	24,424,000
Spain.....	21,249,000	14,334,000
Egypt.....	7,791,000	27,719,000
Brazil.....	13,081,000	16,565,000
Central America.....	1,628,000	5,014,000

Navigation.—The number of vessels that were entered at Italian ports during 1899 was 105,824, of 30,307,513 tons, of which 94,804, of 19,178,698 tons, were Italian and 11,020, of 11,128,815 tons, foreign; the number cleared was 105,712, of 30,162,879 tons, of which 94,778, of 19,130,920 tons, were Italian and 10,934, of 11,031,959 tons, foreign.

The merchant navy on Jan. 1, 1899, comprised 5,764 sailing vessels, of 537,642 tons, and 384 steamers, of 277,520 tons.

Railroads, Posts, and Telegraphs.—The length of the principal Italian railroads is 9,747 miles. The receipts in 1897 amounted to 279,810,833 lire, and expenses to 198,317,567 lire. The number of passengers conveyed was 54,415,294; tons of freight, 19,148,875 by slow and 1,280,834 by express trains.

The post-office in the year ending June 30, 1898, forwarded 252,292,942 letters and postal cards, 8,554,664 manuscripts, 277,002,844 newspapers, etc., and 11,929,470 money orders, amounting to 846,915,330 lire. The length of telegraph-lines on June 30, 1898, was 26,085 miles, with 101,198 miles of wire. The Government owned 23,937 miles of line, with 77,718 miles of wire, and railroad companies 2,147 miles of line, with 23,477 miles of wire. The number of internal paid telegrams in 1898 was 7,555,564; of foreign telegrams, 1,111,896. The postal receipts in 1898 were 56,709,050 lire; telegraph receipts, 13,948,014 lire; postal and telegraph expenses, 57,858,241 lire; net revenue, 12,798,823 lire.

Politics and Legislation.—The perennial difficulties of Italian finance led to the resignation of Signor Rubini from the Cabinet during the holiday recess of the Chamber. Signor Chimirri took temporary charge until Gaspare Finali was appointed Minister of the Treasury on Jan. 7, 1901. The financial problem was to reconcile the demands of the ministries with the promised alleviation of the crushing burden borne by the

poorer taxpayers. The Saracco Cabinet, constituted as a Ministry of Affairs, had a precarious tenure of office. When the Chambers met on Jan. 27 the Cabinet was assailed from both sides of the Senate for its action in dissolving the Socialistic Chamber of Labor in Genoa and afterward sanctioning its reconstitution when the workmen of that city struck in sign of protest.

Other statesmen were ambitious to cope with the questions of financial and administrative reform and the renewal of the Triple Alliance expiring in 1902. The question of the Genoa strike was the pretext, not the cause, of the fall of the Cabinet, which could not save itself by bringing in a new anti-Anarchist bill. Rudini, Giolitti, Crispi, and Pelloux, who had been Prime Ministers at different times since 1891, when in face of a combination that compassed the downfall of their Cabinets, resigned in every instance without waiting for a hostile vote. Signor Saracco waited for a vote of censure, and was beaten on Feb. 6 by the enormous majority of 318 to 102. The King, after consulting the leaders of all the parties, decided to entrust the task of forming a new Cabinet to Signor Zanardelli, a leader of the Liberals. The chiefs of the Extreme Left refused to enter the Cabinet unless a drastic reduction in military expenditure was promised, and on Feb. 14 a ministry containing 3 Zanardellians, 3 Giolittians, 3 Conservatives, with the same professional heads of the army and navy departments as in the retiring ministry, was formed as follows: President of the Council, Giuseppe Zanardelli; Minister of the Interior, Giovanni Giolitti; Minister of Foreign Affairs, Giulio Prinetti; Minister of War, Count Ponza di San Martino; Minister of Marine, Admiral Morin; Minister of Finance, Leone Wollemborg; Minister of the Treasury, Ernesto di Broglio; Minister of Justice, Francesco Cocco-Ortu; Minister of Public Works, Girolamo Giusso; Minister of Agriculture, Silvestro Picardi; Minister of Public Instruction, Nunzio Nasi; Minister of Posts and Telegraphs, Tancredi Galimberti. The tax reforms promised by the Zanardelli-Giolitti Cabinet were the abolition of the octroi on flour and bread and the removal of octroi barriers in towns of less than 20,000 inhabitants, 274 in number, two-thirds of them situated in the south, where the octrois press the hardest. The opening of these closed communes by doing away with gates and collectors does not abolish all octrois, but the toll collected on necessities of life is much lighter, the remission of taxation amounting to 40,000,000 lire, which the Government expected to regain by a steeper rate of progression in the succession duties. The new ministry had to confront an Opposition majority at the outset of 187 to 160 Ministerialists including 80 Extreme Radicals and Socialists. Hostile committees were chosen, and the commission which examined the fiscal program of the Government rejected all its provisions. The municipalities it was intended to relieve condemned this scheme for the partial abolition of the gate duty on breadstuffs. The Cabinet had then no definite program. Yet it remained in office, passing its bills with the help of the Opposition and in spite of its supporters. The army budget was fixed at 275,000,000 lire a year for a sexennial period, including 35,000,000 lire for pensions and a provision for gradually renewing the 7.5-centimeter guns of the field-artillery. The annual naval estimates were in like manner limited to 121,000,000 lire for six years.

The new Minister of Foreign Affairs had made himself chiefly conspicuous in that department of politics in former days by attacking the Triple

Alliance. He took an early opportunity to explain that he was not bound by any previous irresponsible declarations, but the Cabinet did not pledge itself prematurely to renew the alliance with Germany and Austria. Commercial treaties with those countries were being negotiated, and favorable trading conditions with them were of great importance to Italian prosperity. Although the commercial treaty concluded in 1898 ending the tariff war with France relieved an intolerable situation, no new arrangements that could be made with the Protectionist Government of France would outweigh the economic advantages of reciprocity with Austria and Germany. The Duke of Genoa in command of an Italian squadron visited Toulon to salute the President of the French Republic in sign of the continued good relations between Italy and France. The discussion of the Triple Alliance in the European press drew from the Minister of War and the Prime Minister the statement that this secret compact does not bind Italy to maintain any specified number of army corps or strength of armaments. The external ambition of Italy has in recent times been directed neither toward the Trentino nor Nizza, nor seriously attracted to colonial expansion in East Africa, China, or other remote regions, but Italians of every party look forward to the possession of Tripoli, not alone for its economical possibilities, chiefly rather for its military value for the security of Italy, since if it fell into other hands Italy would be surrounded by a continuous circle of foreign coast line. For a like reason Italians are jealous of the designs of any power upon the opposite coast of the Adriatic, and are not more willing that Austria should extend her influence in that direction when she is the present ally of Italy than they would be if the two Governments were estranged. Italians still hope to possess the whole coast of the Adriatic, and Albania is the heritage for which they look with assurance when the Turks depart from Europe. Many Italians reside in Albania, and with the progressive weakening of the Sultan's rule they look more and more to the Italian Government for protection. An independent Albanian state would not be regarded with apprehension in Italy, as it might in Austria, because it would be open to progressive Italian influence. There are 200,000 Albanians in Italy who have their own college, and in some districts Albanian blood is mingled with Italian. Congresses for Albanian national independence are held in Italian cities. The country across the seas which stirs the interest and pride of Italians is the Argentine Republic, a region remote from the political and colonial ambitions of Italy, where still the vitality and colonizing capacity of the Italian race is best exemplified, where 700,000 Italians by their intelligence and industry have created a valuable market for Italian produce.

The advent of a Cabinet of the Left depending on Socialist support was the signal for forming among workmen and agricultural laborers leagues of resistance and improvement leagues which covered whole provinces, with the object of obtaining by collective action an increase of wages. Landowners and employers, after the sanguinary suppression of the riots of May 1, 1898, had diminished wages and withdrawn concessions. Now that Signor Giolitti and other Liberals were in office the working classes attempted to regain by organization what they lost. Strikes accordingly broke out all over the country. Signor Turati and the evolutionary Socialists who followed him declared freedom of Socialist propaganda and organization to be the price the Gov-

ernment must pay for the parliamentary support of the Socialist group, and aimed, through the network of labor organizations with which they covered the country, to sweep the working-class constituencies at the next general election, taking the seats held by their Radical and Republican allies and coming back to the Chamber in such strength that they can demand admission to the committees and to the ministry and shape legislation affecting the working people. The revolutionary branch of the party had no sympathy with these parliamentary aims and methods. Minister Giolitti made no attempt to repress the leagues of resistance. He directed the prefects to act as arbitrators in labor disputes wherever they could. In some instances the carabinieri persuaded laborers who took the place of strikers to cease work for fear of provoking a conflict. Whenever disorderly strikers were arrested they were quickly released. The internal policy of the Government was accepted, and the life of the Cabinet was assured after a declaration of loyalty to the Monarchy from Signor Zanardelli by the voting of the estimates of the Ministry of the Interior on June 22 by 264 votes to 184; but in the Senate the ministerial majority was only 3, owing to animosity against Signor Giolitti. The Prime Minister said that the motive of the Liberal administration was to safeguard the free exercise of public rights though giving a free scope to agitations, since liberty is won by struggles and is to be preferred with all its perils; but if recourse were had to violence he promised to repress it with inflexible severity. Immediately after the Chamber gave its approval to the liberal policy of the Government, in a tumult at Berra, near Ferrara, 30 peasants fell victims to the revolutionary fermentation, or to a reckless blunder of the lieutenant who commanded the troops to fire, who was maligned by the whole Liberal press and by the Socialists in the Chamber, but was acquitted by a court-martial. There were no other riotous disturbances, though at Mantua the striking harvesters burned barns. The strikes increased up to and after the adjournment of the Chamber on June 30, and the agricultural laborers, bricklayers, cigarmakers, operatives in macaroni factories, railroad brakemen, and other workers generally succeeded in obtaining a considerable rise in wages. A strike of seamen at Genoa was not settled, despite Signor Zanardelli's effort to induce arbitration, because the ship owners would not listen to a delegation of the united labor league. The excitement caused by the Berra incident led to monster meetings of Anarchists, Socialists, and Republicans in Rome, Milan, and Naples, in which the King, the upper classes, and the army were violently denounced. This agitation served to develop the cleavage, already pronounced, between the opportunists and the extremists or idealists of all three groups of the Extreme Left—between the Radicals who adhered to the Monarchy and those who would not; between the Republicans who would evolve the Republican ideal out of the existing monarchial Government and those who aimed to establish the republic upon its ruins; between the Possibilist or Ministerial Socialists and the Revolutionary or Anarchoid Socialists, who would join the Anarchists in precipitating a convulsion. The Anarchoids were most numerous in the rank and file of the Socialist party, and compelled Signor Turati and his partisans to withdraw from the Milanese Socialist federation in order to found a new federation of Possibilists. Clerical peasants' leagues committed outrages in Lombardy, which were checked by the prompt action of the police and troops. Signor Wollem-

borg was not more successful than his predecessors in solving the problem of tax reduction. His scheme involved the sacrifice of 325,000,000 lire of revenue without adequate compensation. It was rejected by the Cabinet, and he resigned on July 31. The Minister of Agriculture and Commerce gave up also his portfolio, which was accepted by Prof. Guido Bacelli on Aug. 4, and the Ministry of Finance on Aug. 8 by Signor Carcone, who held the same post in the first Pelloux Cabinet. The finances of the Government showed a surplus of about 17,000,000 lire for the year ending June 30, 1901, instead of the expected deficit. The development of the sugar industry led to a large increase of the sugar tax.

Dependencies.—The ultramarine possessions of Italy consist of the colony of Eritrea on the Red Sea coast and Obbia and a part of the Somali coast to the south of it ceded to Italy by the Sultan of Zanzibar in 1892, extending 180 miles inland and including the ports of Brava, Merka, Mogadocio, and Warsheik (see EAST AFRICA). Eritrea has an area of 88,500 square miles and a population of about 450,000. There were 2,014 Europeans in 1899. The port of Massowah had

7,775 inhabitants. The imports in 1899 were valued at 9,071,391 lire. There were 2,953 vessels, of 113,179 tons, entered and 2,947, of 113,095 tons, cleared, four-fifths of the vessels being Italian. A railroad, of which 17 miles have been built, is being carried by an Anglo-Italian company from Massowah to Asmara, the seat of government, and a telegraph to Adis Abeba, the capital of the Negus Menelek (see ABYSSINIA). The railroad, which will allow gold-mines in the interior to be exploited, is to be finished in 1903. The colony has an autonomous administration and the management of its own finances. Gov. Martini in March, 1901, negotiated with Anglo-Egyptian representatives the frontier delimitation between Eritrea and Kassala, which Italy restored to Egypt in 1897 after three years of Italian occupation. Tomat, at the junction of the Setif with the Atbara, remains under Italian influence. The frontier between French and Italian territory in the south was delimited by a joint commission about the same time, and Italy obtained the important post of Assab. Signor Dulio is Governor of the Benadir Coast, which is otherwise called Italian Somaliland.

J

JAPAN, a constitutional empire in the Pacific Ocean, occupying a chain of islands between the Russian and the American possessions, from north latitude 21° 48' above the Bashee Channel near the Philippines, to 56° 56' near the Kurile Islands; and from east longitude 156° 32' to 119° 20'. Of the 4,000 and more known islands, more than 500 are inhabited, though nearly three-fourths of the people live on the main island, Hondo. The population Dec. 31, 1898, was 43,760,754, or, with that of Formosa (2,797,543), the total is 46,558,297. The money standard is gold, a yen being worth 50 cents.

The feudal system, after nearly one thousand years of development, was abolished in 1871. The Emperor, whose personal name is not in general use either officially or popularly, and who has no family name, bears the usual title of Tenno, "Son of Heaven," or Kotei, "Emperor," but the most ancient title, which has obtained an honorable place in the languages of civilization, is that of Mikado, or "Honorable Gate." Only male descendants succeed to the throne, and the Mikado not only reigns but governs. Mutsuhito, the present ruler, born in Kioto Nov. 3, 1852, is the one hundred and twenty-second of the imperial line, succeeding his father, Komei, Feb. 13, 1867. He married, Feb. 9, 1869, the Princess Haruko, born May 28, 1850, daughter of Prince Ichijo. She is childless. The heir apparent, Prince Yoshihito, was born Aug. 31, 1879, of the Lady Yanagawara Aiko, of the imperial harem. He married, May 10, 1900, his cousin the Princess Sada, daughter of Prince Kujo, born June 25, 1884. A male child, Hirohito (Michi-no-Miya), was born of their union May 5, 1901. The civil list is 3,000,000 yen, or 1.5 per cent. of the state revenues. By the Constitution of 1889 the Emperor limited his prerogative, and he shares legislative power with the two houses of the imperial Diet, the upper house having about 316 peers and imperial nominees, and the lower house 369 members, from 16 urban and 308 rural districts, elected by subjects who pay at least 10 yen in direct taxes. The general tendency of political life is toward democracy, and constitutional reform has been steadily continuous, with a tendency, despite frequent fail-

ures, toward the English, rather than the German system. The sixteenth annual meeting of the Diet began Dec. 10, 1901. After twenty-two months of office, the Yamagata Cabinet resigned in March, 1901, and a new Cabinet was formed by the Marquis Hirobumi Ito in May, which lasted but a few weeks. The Emperor then summoned Viscount General Katsura to form an administration, which is still in office.

The imperial Cabinet, over which the Emperor actively presides, consists of the Minister President of State and nine heads of departments. The Emperor is also assisted by a Privy Council of 20 statesmen of age and experience, who have great influence in the appointment of the Mikado's servants, from Prime Minister to consul. There is also a Court of Accounts, an administrative tribunal, and two administrative bureaus, for the upper and lower house respectively. Besides this Central Government there is the other division of the provincial government, in which are grouped the prefecture of the police of Tokio, Department of the Colonization of Yezo, the Fu and Ken (prefectures of the districts, 47 in all, with 14,687 subdivisions), and government of the island of Formosa. In 1898 the total number of civilian employees of the Government was 68,876, who drew salaries to the amount of 18,587,710 yen.

The Army.—The Emperor is commander-in-chief of the army and navy, and the whole male population between the ages of seventeen and forty is liable to military service. Both the naval and the military forces are divided into the actual service, the reserve, and the territorial forces. The standing army is divided into the active army, levied from males of the age of twenty, who must serve with the colors three years, but in the case of the navy four years. Of all branches of the service, including the police, the total in 1899 was 6,557 officers and 149,134 men for a peace footing. In the reserves are 1,734 officers and 178,153 men; and in the territorial army 834 officers, 96,317 men, with a still further reserve force of 168,249 men, who in an emergency may be drawn upon, making a grand total of 583,119. There are training-schools for almost every branch of the service. All the small arms, cannon, and ammunition are

made in the Government arsenals at Tokio and Osaka. The rifle used by the infantry was invented by Col. Murata, and is exactly fitted for the man who uses it. In its improved form, since the war of 1894, it is a repeater. The Arisaka quick-firing cannon, very light and effective, was introduced in 1901. Much attention is paid to the education of the soldiers. The number of illiterates is steadily decreasing, there being in the army more than 65,000 graduates of the elementary schools and about 1,000 of the middle or higher schools. The number of horses in service is 30,000. The Red Cross Society in 1900 had 728,507 members, with a total income of 4,657,575 yen, and two fully equipped hospital ships.

The Navy.—The Japanese began the formation of a steam navy almost immediately after first (in 1853) seeing a steamship, which was the first large United States war steamer, the *Mississippi*, of Commodore Perry's squadron. The Yedo Government at once sent students to learn from the Dutch at Nagasaki, and by 1860 one of these young men was able to navigate a steamship across the Pacific. Naval development has gone on steadily since. There are five maritime districts, in three of which are docks, arsenals, barracks, foundries, and other facilities for ship-building. Maizuru, on the west coast, fronting Vladivostok, chosen in 1890, is now being laid out. Muroran, as yet only a village of 1,150 souls, is in Yezo. In 1898 the mean daily force in the naval service, exclusive of commissioned officers, was 18,426. The number of deaths by disease was 129, or 6.34 per 1,000 patients, a decrease of 9.91 per thousand, compared with the death-rate for the preceding fourteen years. The improved system of diet has driven *kaké* out of the navy, and the increase of body weight per man, from 1884 to 1898, is from 121 to 130 pounds. In 1901 the actual fleet afloat and in commission was more than 70 vessels, with a *personnel* of more than 25,000, of whom more than 6,000 were trained officers. In December, 1901, there were 8 battle-ships, 10 coast-defense ships, 18 cruisers, 16 gunboats, 3 despatch-boats, 1 torpedo-depot, and more than 50 torpedo-boats, besides 1 battle-ship, 3 cruisers, 3 second-class cruisers, and 30 torpedo-boats building at home and abroad.

Finances.—The dearth of available capital in Japan for the carrying out of the multifarious private enterprises natural to a nation that in recent years has passed from the agricultural to the industrial and commercial condition, together with the great expansion of national energies under the direction of the Government since the Chino-Japanese War of 1894, has caused much financial embarrassment, the trouble arising from increasing wealth rather than otherwise. Since Oct. 1, 1897, Japan has employed the gold standard. From the establishment of the mint at Osaka in 1870, money to the amount of 516,744,691 yen, in bronze, copper, nickle, silver, and gold pieces (3 of gold, 6 of silver, 1 of nickle, and 1 of bronze), has been coined, but in December, 1900, the mint struck 171,719,820 yen in 10-yen pieces and 315,000 in 50- and 10-sen pieces. The indemnity collected from China—365,194,997 yen—furnished ready money, of which 20,000,000 yen were gratefully given to the Emperor, and the rest employed in the enlargement of the navy and in coast defense. The outbreak in China in 1900 required the expenditure of 23,905,611 yen out of this indemnity fund, most of which it was proposed to make good by extra taxation, but against this measure the House of Peers protested. The national debt in September, 1901, was 526,664,194 yen. The budget for 1901 as passed

by the Diet was: Ordinary revenue 201,247,095 yen, and extraordinary revenue 53,358,486 yen. The revenue is from (1) taxation, 149,351,250 yen; (2) Government enterprises, 46,524,610 yen; (3) miscellaneous receipts, 5,371,235 yen. The principal items of taxation, stated in million yen, yielded as follows: The land tax 46, sake tax 55, stamp duties 13, and custom duties 15. The receipts, 24,665,964 yen, from post, telegraphs, and telephones, form the principal item of revenue from Government enterprises, after which is that from the patent bureau, 9,610,011; and the third from the railways, 8,665,964 yen. The ordinary expenditures amounted to 163,568,171 yen, and extraordinary to 85,775,851 yen, or a total of 249,344,622, showing a surplus of 5,620,959 yen. Nevertheless, in the extraordinary revenue is an item of 29,862,450 yen derived from domestic loans that as yet have not been floated. And another item in extraordinary revenue is 19,315,105 yen appropriated from the Chinese indemnity. In the expenditures the departments receive as follow: Foreign, 2,270,367 yen; Home, 9,165,533 yen; Finance, 52,995,173 yen; War, 38,001,488 yen; Navy, 20,161,010 yen; Justice, 10,821,375 yen; Education, 4,725,578 yen; Agriculture and Commerce, 2,533,007 yen; Communications, 19,984,640 yen. The budget submitted for 1902 sets forth a revenue of 261,493,272 yen, of which 226,345,000 yen is ordinary, and 35,148,272 yen is extraordinary expenditure, its largest item being the issue of bonds to the amount of 22,525,150 yen. The total ordinary revenue from Formosa for 1900 was 10,270,186 yen, against 7,493,650 yen in 1898, making, with the extraordinary revenue in 1900, 17,426,665 yen, against 11,283,265 yen in 1898. In the domestic trade in 1900 the exports amounted to 4,678,000 yen, and the imports to 8,439,000 yen. In foreign trade the exports were worth 10,571,000 yen, and the imports 13,570,000 yen.

Resources.—The year 1900 was characterized by a great expansion in commerce, industry, and new enterprises, calling for ready money, which the country itself, though so prosperous, can not provide. The official investigations of the Home Department show that the national wealth of Japan for 1898 was 113,060,000 yen, against that in 1888 of France, Germany, Austria, Italy, Russia, and the United States of 85,000,000, 64,000,000, 38,000,000, 29,000,000, 50,000,000, and 128,000,000 yen respectively; or, 150 yen per head of population in 1901, against 2,240, 1,440, 990, 1,000, 550, and 2,100, respectively, of the other countries. In national expenditure in 1901 Japan's burden was 248 out of every 1,000 yen, or 4 yen per head, or 22 out of every 1,000 yen of wealth. In national loans in 1900, Japan had 486,460 yen, or 10 yen per head, and 42 yen in every 1,000 yen of wealth, the exports reaching a total of 204,000,000 yen and imports 287,000,000 yen; in savings there were but 51,908 yen, or less than 1 yen to each head, or 5 to every thousand yen of wealth. The ratios of other customs were published in full, for educational purposes. In the customs' returns to the amount of 1,500,000 yen in 1899 many articles that in 1870 had no figure in the list were exported, such as buttons, which were practically unknown to Japanese dress in 1868, 230,000 yen; leather boots and shoes, formerly unknown, 30,000 yen, and averaging 1.52 yen per pair; gloves, 10,000 yen; hats, caps, and bonnets, 180,000 yen; cotton shirts, 112,000 yen; socks and stockings, 112,000 yen. The researches show that the country's wealth in 1887, as compared with 1877, had increased 40 per cent; and in 1897, as compared with 1887, 60 per cent. Investigations made during several months of 1901

show that in September there were, when free from debt, 441 Japanese subjects worth 500,000 yen, or 1 semimillionaire in yen for every 100,000 people, of whom one-third were in Tokio, 38 being in the one district of Nihon Bashi. One or two men have amassed wealth in one generation; the others have inherited the greater part of it. In March, 1901, there were 61 cotton-spinning companies with 61 factories and 968,301 spindles, with an output of 17,847,644 pounds of cotton yarn, employing 42,870 operatives, of whom 40,152 were females. Disturbances in China have greatly affected the business of textiles, the decrease in the last half of 1900 being 45,523,000 pounds below that of the first half. At the end of 1900 the area of mulberry farms was 751,368 acres, yielding 13,763,570 bushels of cocoons; 3,718,970 cards of eggs were reared to silkworms, 2,752,714 koku of cocoons raised, and 44,657,028 yen worth of raw silk and 4,161,318 yen of waste silk were exported. The total ordinary revenue from Formosa for 1900 was 10,270,186 yen, against 7,493,650 yen in 1898, making, with the extraordinary revenue in 1900, 17,426,665 yen, against 11,283,265 yen in 1898. In the domestic trade of Formosa, in 1900, the exports amounted to 4,678,000 yen, and the imports to 8,439,000 yen. In foreign trade the exports were worth 10,571,000 yen, and imports 13,570,000 yen.

Communications.—The Nippon Yusen Kaisha (Japanese Ocean Navigation Company) declared a dividend of 12 per cent. in May, 1891, having a fleet of steamers (6 of them on the Hong-Kong-Seattle line, of 6,000 tons each) worth, by a rigid modern standard of reckoning, 18,750,426 yen. In railway development, exclusive of Formosa, there were on March 31, 1900, 3,689 miles open, of which 2,806 were of private and 883 of Government ownership, the total cost of construction being 243,423,280 yen, or 67,024 yen per mile. The receipts for one year amounted to 39,110,519 yen, and expenses to 18,833,217 yen, the profit per cent. on cost being 0.80, and per day on a mile 14.99. The number of passengers carried was 102,115,942. The checking system for baggage is used. The once beautiful landscape has been made an eyesore by the disfiguration of advertisements. In the year ending March 31, 1900, 50,000 persons were employed in the postal department, 624,706,890 articles of small matter were handled, and 5,852,045 parcels conveyed, through 4,447 offices, with 44,002 letter-boxes, and more than 185,110,402 miles of postal routes. These figures do not include Formosa, whose statistics are remarkable for their increase from 1896. Including Formosa, there were 1,496 telegraph offices and 105,361 miles of wire, over which 14,567,000 domestic and 277,300 international messages were sent, the total receipts being \$3,130,790, and the expenses \$2,532,205. For the delivery of telegrams, bicycles are used. Of telephones there were 72 offices and 11,813 subscribers, who held 40,000,000 conversations over 178,065 miles of separate wires. The expenses of inauguration and working amounted to \$1,150,000, and the receipts for 1900 were \$560,000. In 1898 the Japanese had only one steamer of 5,000 tons or more, but now they have 21 vessels of that size. On Sept. 16, 1901, there were in the empire 942 steamers of 557,166 tonnage, 3,416 sailing vessels of 315,767 tonnage, the crews of which numbered 15,327. Ship-building has received a great stimulus through bounties offered by the Government. The metric system is used side by side with the native measures, which are decimal. A *tsubo*, which is exactly the size of two floor mats, so that it conveys clearly an exact measure picture to the native eye, has no deci-

mal features. Hence the Japanese engineers, mechanics, artisans, and merchants calculate by this square measure especially. In 1900, 21,000 foreign tourists traveled in the empire.

Public Hygiene.—The national health is decidedly improving. The report of the Central Sanitary Bureau for 1896 shows that the most common diseases are dysentery, typhoid fever, small-pox, cholera, and diphtheria, the number of cases of these disorders in 10,000 of the population being in round numbers 16, 9, 3, 2, 1, respectively. Of 85,876 persons attacked with dysentery, 26 out of every 100 died. Of every 100 attacked with diphtheria in 1895, 49 died, but after the introduction of treatment by serum, the rate in the empire fell to 38, and in Tokio to 23. There are 39,214 practising physicians, or 1 to every 1,036 persons, in the empire. In the hospitals the most advanced results of modern science and experience, many of them first introduced or suggested by Christian missionaries, are in use. In health, strength, weight of body and length of average life, improvement has been made in the whole empire, and most notably in the army and navy.

Trade.—Since 1890 the purchases of Japan from countries other than the United States have been trebled, while American exports to Japan have increased tenfold. In 1900 the trade with the United States was greater in volume and value than that with any other country, amounting to one-fourth of the total business. The exports were valued at 204,429,994 yen, and the imports at 287,261,845 yen. In 1900 the trade with China amounted to 61,800,000 yen, Great Britain 82,900,000 yen, Germany 32,700,000 yen, the United States 115,300,000 yen. The exports to the United States were 52,566,395 yen, and the imports were 62,761,196 yen. In 1901 the exports of the first six months amounted to 115,340,136 yen, and the imports to 130,599,018 yen. The United States buy, in millions of yen, tea, 7; rice, camphor, raw and manufactured silk, 32; matting, 3; porcelain, 1; plaited straw, 1; and fans, 1. The Americans sell all kinds of machinery, 4; flour and foodstuffs, 4.5; steel rails and manufactured iron or steel, 3.5; petroleum and other oils, 11; cotton, 8.4; and other articles that minister to the most advanced needs of civilization. The cotton-crop of Japan is unimportant, and raw cotton must be imported.

Religion and Education.—Shinto with 12 sects, Buddhism with 38 large and many smaller sects, and Christianity in its 3 forms (Greek, Roman, and Reformed) are the acknowledged religions of the country, protected by law, their followers being guaranteed absolute freedom of belief and practise, within the limits not prejudicial to peace and order, and not antagonistic to their duties as subjects. In 1897 there were of temples, Shinto, 191,962; of Buddhist, 109,945; of Christian church edifices, 289. In 1900 there were of Protestant missionaries 723, with 42,273 members, 416 congregations, with various schools, and most of the appliances of modern philanthropic work. The Roman Catholics, with 106 missionaries, had 251 congregations, and 54,602 adherents. The Russo-Greek Church, with 297 churches, had 25,698 followers. There were 5,111 day- or boarding-schools and 33,039 Sunday-school pupils in Protestant missionary schools, with property valued at 751,140 yen, apart from church edifices valued at 376,109 yen; and 14 theological schools with 98 pupils and 234 graduates of same. In 14 hospitals or dispensaries, 2,268 in-patients and 26,729 out-patients were treated. The amount raised by native Protestant Christians for all purposes in 1900 was 107,459 yen.

The national system of education, elaborated in

the early seventies under American supervision, has been extended throughout the empire. Elementary education is compulsory—excluding Formosa, in which the system is especially adapted to the three various races on the island. In 1900, while the number of children of school age (six to fourteen) was nearly 8,000,000, only 4,168,717 were in actual attendance, in 28,453 schools taught by 87,855 teachers. Of these, 3,930,843 were in the common public and 63,149 in ordinary private schools. In the public middle schools there were 43,223, and in private schools 9,219 scholars. In the higher middle schools were 4,436, in the imperial universities 2,255, and in the normal schools 8,830 pupils. There are also special schools of almost every description, including those for art, manual industry, industrial trade, the blind and mute, etc., exclusive of those in the military and naval departments. In 1900 about 100 students were supported by the Government in their studies abroad. In the imperial universities in Tokio or Kioto are 18 students from other Asiatic countries; 200 Chinese in the schools, mostly military; 70 Koreans, a majority of whom study law; and 2 Filipinos.

Politics and Events.—On Feb. 3, Mr. Y. Fukuzawa, editor, author, and founder of a university, described by the natives as "the greatest motive force of Japanese civilization," the sale of whose books, championing Western civilization reached a total of 4,000,000 copies, died, and 10,000 persons on foot accompanied his remains to the temple in Tokio, set apart in 1859 as the home of the first American legation in Tokio.

The Diet reduced the budget by 3,496,891 yen. The House of Peers refused to pass the new taxation bill or to increase the salaries of the judges, and the Emperor was obliged to intervene, acting on his own account, without the signature of the ministers to his decree. The Diet was closed March 29. During the session, of 1,229 petitions received, 871 failed to receive attention. Of 53 Government bills, 52 passed. Of the 150 important measures presented, 92 were passed. After the resignation of the ministers, the Emperor summoned Marquis Ito to form a Cabinet. This he did, gathering around him young men of signal ability, most of them educated in the West; but the burden of unsolved financial problems, owing to the carrying out of the enlarged post-bellum program at a time when so many other enterprises were on foot in the country, made it impossible to provide the ready money, and this, with other reasons, caused the resignation of the new Ito Cabinet on May 2. The Emperor summoned Viscount General Katsura to organize a new ministry, which was installed June 2.

On June 21, in Tokio City Hall, Mr. Hoshi Toru, late Japanese minister at Washington, was assassinated. The assassin was a highly educated Conservative and teacher of swordsmanship, given to reading Chinese works that justified the removal of rulers reputed evil. The murderer was punished by degradation, with hard labor for life.

A severe earthquake visited Awomori prefecture Aug. 10.

Marquis Sho Tai, formerly King of the Loo-Choo Islands, died in Tokio Aug. 19, in his fifty-seventh year, and with his death ended the last of the dual sovereignties of Asia.

In September an exhibition of the products of the porcelain districts was successfully held in Tokio.

Appropriate weather—alternate rain and sunshine, with steady prevalence of damp heat and absence of storm—in September, caused the rice-crop to be about 12 per cent. above the average, and the largest since 1892.

A memorial service in honor of President McKinley was held in Holy Trinity Cathedral, Tokio, the Mikado sending Prince Kanin as his representative, he having already ordered by telegram a wreath for the funeral in Canton, Ohio.

The Emperor's birthday, Nov. 3, was celebrated at the palace with unusual gaiety, the imperial grandson being one hundred and ninety days old. The sixteenth session of the imperial Diet opened Dec. 10, at which the Emperor made the usual speech. The lower house, in its reply, Dec. 11, declared there were indications of a disturbance in the Orient in the near future, and pledged itself to discharge its duties with circumspection.

JEWS. The year has been without especially eventful incident, but many occurrences of more than passing interest may be chronicled. The situation in Europe was more tranquil than in previous years, apart from conditions in Roumania. In Russia, educational privileges have been curtailed, but the authorities have shown more just treatment, while the praise awarded to Jewish soldiers who were included in the Russian army of occupation in China proved gratifying. The Dreyfus agitation in France had one good result—in leading to the associations bill, which was aimed at reactionary clericals by whose influence Capt. Dreyfus was persecuted. Anti-Semitism, in the person of Max Régis, notorious for his ineffectual attempts at Jew-baiting in Algeria, was summarily discontinued. The formation of a Hilfsverein among the Jews of Germany—on a broader basis than its union of congregations—is a hopeful effort toward confederation, in self-defense as well as for benevolent purposes. In Austria-Hungary a marked decline in anti-Semitism was proved by the parliamentary elections, and in Vienna the feeling is less acute. Italy appointed Leone Wollemborg to its portfolio of Finance, and the corner-stone of a new synagogue in Rome was laid in the presence of thousands, not far from the spot where once the Jews were exposed to public odium. Roumanian conditions are still unpromising; the Berlin Treaty's guarantees are violated without redress, and thousands of Jews are obliged to emigrate to escape starvation. In Turkey the Sultan continues gracious, and the dedication of a new temple in Constantinople marks the increase in the Jewish community. The Zionist agitation is still prosecuted, with hardly as much enthusiasm as at first save among the most zealous adherents. The proceedings of the congress held toward the end of December are not yet reported, but the movement is being actively propagated, its chief following, however, being in Russia and Roumania, and among recent emigrants from those countries. The bicentenary of the London Portuguese Jewish congregation was marked by the issue of a volume devoted to its history by Dr. Gaster. Some uneasiness was expressed in Parliament and the press at the increase in Jewish immigration, but investigation showed that fears were groundless. The words of King Edward in reply to the deputation of English Jews to congratulate him on his accession were most significant: "It will always be my care to maintain and promote the extension of equal liberty to all races and denominations among my subjects." The work of the Jewish Colonization Society was continued in Russia, Palestine, and elsewhere, with special attention to technical, industrial, and agricultural pursuits. The colonies in Argentina made genuine advance; those in Palestine varied in their results. In the United States, the Sunday question agitation has not been without its effect on Jewish citizens. Attempts in Massachusetts

and New York to secure the privilege of open stores on Sunday to Jewish observers of the seventh day failed; it can not be said that the great majority of the Jews were in favor of exceptional legislation, but they wait their time until public opinion in general recognizes the need of more discrimination in Sunday laws. The publication of the first volume of the Jewish Encyclopedia was notable not only from the participation of Jewish and non-Jewish scholars and its being undertaken by a Christian publishing firm, but also as a sign of increasing interest in Jewish studies. The acceptance by Prof. Schechter (of Cambridge University) of the New York Jewish Seminary's directorship is another sign of educational progress. Dr. Schechter is a scholar of recognized authority, and is conservative in his views, and his appearance in the field marks an impending change in the character of American Judaism, if he is strong enough to resist his environment and restore the olden foundations which are passing away in the stirring currents of the time. The Jewish Historical Society is preparing for an American Jewish Historical Exhibition to be held next year in New York. The movement to confederate Jewish charities and have one collection only for all has succeeded in St. Louis,

Chicago, and Philadelphia. The National Farm School, near Philadelphia, and the Woodbine (N. J.) Agricultural School continue to meet success. The corner-stone of the new Mount Sinai Hospital was laid in New York and the Sanitarium of the Montefiore Home was opened at Bedford Station, New York. In Philadelphia the Home for Jewish Orphans was dedicated, in Cincinnati the Jewish Shelter Home, in Cleveland the Jewish Infant Orphan Asylum. Congregation Beth Ahaba, of Richmond, Va., celebrated its sixtieth anniversary, June 14; Congregation Gates of Prayer, of New Orleans, and Beth Elohim, of Brooklyn, their fiftieth anniversaries, May 10 and 17. The visit to America of M. Nissim Behar in the interests of the Alliance Israelite Universelle is arousing much interest in the work of that organization. The Jewish Publication Society introduced a new novelist in Martha Wolfenstein's *Idylls of the Gass*, and announces a new translation of the Psalms for early issue. Part XIII of Dr. Jastrow's Dictionary of the Talmud appeared, and Part II of M. Lazarus's *Ethics of Judaism*, and Nina Davis's *Songs of Exile*. Emma Wolf wrote *Heirs of Yesterday*. Rev. Dr. Philipson translated Dr. Wise's *Reminiscences*, and P. Wiernik issued in Yiddish a *History of the Jews*.

K

KANSAS. (See under UNITED STATES.)

KENTUCKY. (See under UNITED STATES.)

KOREA, or TA-HAN, a country in eastern Asia, between Russia and China. It occupies a portion of the mainland, with the peninsular part projecting toward Japan. Eleven miles of its northern frontier borders upon Russian territory, from which it is separated by Tumen river. The Ever-White mountain and the Yalu river divide it from Manchuria. Its area is estimated at 82,000 square miles. It was opened to commerce by treaty with Japan of February, 1876, and with the United States in 1883. The Koreans are larger than the Japanese, and finer-looking than the Chinese, but lack the moral stamina of either. By the official report of the census taken in 1900, the population is set down at 5,608,351, but these figures comprehend only those who are enumerated for revenue purposes. Estimates of the population by foreigners vary from 10,000,000 to 15,000,000. Females are greatly in the minority, because less care is taken of the girls in infancy and childhood. The Americans in Korea number 269—missionaries 162, miners 75, electricians 15, Government employees 10, merchants 7. The Koreans have a system of measurements and weights peculiar to themselves. The old perforated cash and new coinage are on the decimal system, the latter in name corresponding to dollar, dime, nickel, and cent; but the regulating coin of the country is the Japanese yen, worth 50 cents. In measurements of time there are the year, month, day, two-hour period, and *pun* or twelve minutes; but in the vernacular there is no word for minute or second, though Koreans in contact with Western people use native equivalents of our terms, even to the second. There are also linear, square, spherical, grain, and land measurements.

Government.—The Koreans claim Kija, an ancestor of Confucius, as the founder of their civilization in 1122. The present dynasty, which began the fourth great period of national development, arose in A. D. 1392, when Seoul, the capital, was founded. Since the Chino-Japanese War of 1894-'95, Korea has been an independent state,

paying no tribute to China or Japan. On Oct. 14, 1897, the King assumed the title of Emperor, naming his realm Ta-Han (Great Han, meaning all Korea, in distinction from the ancient San-Han, or Three Kingdoms, 9-960 A. D.), and in August, 1899, he promulgated a written Constitution, whose nine articles declare his own absolute power and the independence of Ta-Han. The Council of State and the ministries of the Royal Household—Finance, War, Justice, Agriculture, Education, and Home and Foreign Affairs—assist the sovereign. Over each of the 14 provinces a governor, and in each of the 360 districts a magistrate, presides. There is no navy apart from revenue vessels, but an army of 5,000 men is equipped and drilled in Western style. Japanese interests in the empire outweigh all others, but Russian influence is very great. The King celebrated his fiftieth birthday on Aug. 7, appropriating 200,000 yen for the celebration, the music being from a band of 27 pieces of native musicians under a German instructor. A thousand silver medals were cast in commemoration, the inscription being in the native *en-mun*, one of the most perfect alphabets in existence. On Aug. 18, the late Tai-Wen-Kun was raised to the rank of Wang or King.

Railways, Telegraphs, and Public Works.

—By American capital and contractors, the railway from the seaport of Chemulpo to Seoul, 26 miles long, has been finished and put in successful operation, including the 10-span steel bridge across Han river. The same Americans have built, and now operate, an electric railway, eighteen miles long, in and about Seoul, which is very popular with the natives. On July 20 work was begun on the railway between Fusan on the south-east coast and the capital, which passes over the line of the great Japanese invasion of 1592, and through a rich rice district. The line will run almost directly south from Seoul 125 miles, and then turn abruptly to the east, taking advantage of the river valleys and the gaps in the mountains. The Autumn Wind pass requires great engineering skill. One of the 31 tunnels is a mile

long. The total length is 287 miles, with 40 stations including terminals, and 20,500 feet of bridges. The plans require six years for completion. The capitalization is 25,000,000 yen, with power to issue debentures not exceeding 10,000,000 yen. A Japanese syndicate is building the road, the Government at Tokio guaranteeing interest on the bonds for fifteen years at 6 per cent. Work is proceeding at both ends. The railway to connect Seoul with Wiju, on Yalu river, to tap the coal and gold mining regions, has been surveyed, and the concession given to French engineers to use French material. Other important public works are the establishment in Seoul, with American capital and workmanship, of a powerful electric-light plant, near the East Gate, which furnishes 1,500 16-candle-power lights in the palace, besides illuminating the whole city. By the same American company, a system of water-works has been begun in Seoul. A reservoir holding 10,000,000 gallons pumped up by means of two great engines, supplying 5,000,000 gallons a day through a crib built in the center of the river Han, will supply 659 hydrants, each having 2 discharge-pipes. Seoul, once one of the filthiest cities in the world, has now some of the finest and cleanest streets in Asia. Since January, 1900, the Koreans, besides increasing their domestic postal service under French supervision, have added a foreign department. The business of the bureau of telegraphs for 1900 amounted to 72,443 yen, being an increase of 21,756 yen over 1899. Two lines of Japanese steamers ply between Japan and the Korean ports. A native Korean steamship company operated three steamers in 1899, with profitable results.

Finance.—The budget for 1901 shows the revenue to be 9,079,456 yen, and the expenditure 9,078,682 yen. A decree early in 1901 adopted the gold standard, fixing a new coinage of 20-, 10-, and 5-yen gold pieces, 50- and 20-sen silver coins, 5-sen nickel coins, and 1-sen copper coins. Japanese currency is largely used. The First Bank of Japan has substantial buildings of brick and stone in Seoul and Chemulpo. In the former city the American firm of Colbran, Bostwick & Co. are building a fine brick structure in Seoul for the bank for which they have a charter. At the seaport, the Hong-Kong and Shanghai banking corporation has an agency. In 1899 the circulation of Japanese money in Korea was in paper, 3,000,000 yen; gold, 10,000 yen; silver, 1,000,000 yen; making a total of 4,010,000 yen.

Trade.—Foreign goods reach Korea chiefly through Japan and Shanghai, but no detailed report of trade has been published for seven years. The chief item of American imports is petroleum, which in 1900 amounted to \$896,815. Next come mining supplies, of which \$150,000 worth was imported in 1899. Trade with the United States is increasing, American imports having doubled within twelve months. The Standard Oil Company has extensive warehouses at Chemulpo and Fusan. The total trade of Korea for 1900, including native imports and reshipments, was 27,490,388 yen, the imports amounting to 13,335,273 yen, the chief items being cotton goods, American kerosene, and sundries. The exports amounted to 9,439,867 yen, in which the chief items were rice, beans, fish, ginseng, wheat, hides, seaweed, skins, barley, bones, and gold, which latter amounted to 3,633,050 yen, compared with the export of gold in 1894 of 950,703 yen. The published returns of exclusively foreign trade for 1900 show a total of 19,380,327 yen: imports, 10,940,460 yen, and exports 9,439,867 yen; the business with Japan amounting to 15,473,710 yen, with China 4,549,

354 yen, and with Russia (or Manchuria) 356,361 yen.

Mining and Foreign Interests.—For ages the native gold seeker has washed the sands of the rivers and exported the gold-dust and the nuggets occasionally found on the surface or in the mountains. Scooping up sand in a wooden bowl, which had ridges cut round its inner surface, he caught the particles. In rock mining, even shafts have been sunk to a depth of 300 feet, following a vein of gold in its original matrix. The method was to build a fire on the rock. When it was very hot, the fire was drawn off and water thrown on, which broke up the rock and enabled the laborer to dig out a few inches of ore, which he crushed by means of stone hammers or rollers. The use of fire and the resulting smoke restricted him to the use of perpendicular shafts. At Wonsan the Americans have one 40-stamp mill, and two mills with 20 stamps in operation, with buildings and machinery for larger enterprises, about 70 foreigners and 3,000 natives being employed. The English mines are also prosperous. The Germans work at Kimsung. Concessions have also been granted to the Japanese and French to work the coal-, copper-, and gold-mines.

Open Ports.—Nine ports are open to foreign commerce. Chemulpo, from a cluster of fishermen's huts in 1883, has grown to a thriving city of more than 20,000 people, with lines of communication open in all directions into the interior. The Japanese, Chinese, Korean, and general foreign settlements make up the municipality. The Japanese number 4,500, with their banks, steamship and railway companies, and board of trade and rice exchange offices in stone and brick. Five hundred Chinese live in their own quarter. Many handsome solid buildings are in the foreign quarter, with club-houses, theaters, and hotels, besides active missionary establishments.

Wonsan, with a tidal rise of two or three feet, in the northeast, near the center of Korea's 650 miles of eastern coast line, on an inlet covering 40 square miles, with a fine climate, has 15,000 inhabitants. The native town has doubled in population since the port was opened in 1883. The Japanese, who number 1,600, have the foreign trade, which in 1900 amounted to 1,425,570 yen. About 40 Americans and Europeans are here. There are excellent steamer accommodations, and a telegraph to Sang-Gin, which was opened to foreign commerce in 1891. This, the poorest of all the ports, lies between Wonsan and the Tumen river. It has a tidal rise of 2 feet.

The harbor of Fusan is formed by several islands, the largest of which is Deer island, having a rise of tide of 7 feet. In December, 1900, 8,758 Japanese lived at this port, the trade of which in 1900 yielded to the Korean treasury 150,270 yen on imports, 158,249 on exports, and tonnage dues 9,245.

Mokpo, in Chulla province, the garden of Korea, was opened in 1897. The marshy foreshore has been reclaimed, fine buildings have been erected, and the Japanese steamers call here regularly. A sea-wall has been built, and the anchorage is excellent. A fine vein of coal has been discovered near by. At Pinnacle Rock, its western approach, Mokpo has a tide rising 20 feet. The harbor is at the mouth of the large stream, deep enough to float steamers of considerable draught more than 20 miles from its mouth.

Chinnampo, instead of a few straggling huts, has now a population of 15,000, exclusive of the Japanese and Chinese in the foreign concessions.

At Masanpo are 228 Japanese, 18 Russians, 2 Germans, and 41 Chinese.

Ping-Yang city, nearly demolished and deserted in the Chino-Japanese War, has now a population of 100,000, who are diligent and thrifty and profit by the great mining enterprises recently opened near them, and in the working of the coal that crops up almost everywhere around the city.

Kun-san is at the mouth of the Keum river. Its tide has a rise of 21 feet.

Politics and Events.—An anti-Christian uprising in February, led by the ultra-Confucianists, was nipped in the bud by the energetic action of the foreign representatives. The treaty between Korea and Belgium was ratified Feb. 23, in Seoul. The Korea branch of the Royal Asiatic Society, formed in October, 1899, have published two volumes of their Proceedings. On April 20 Baron P. G. von Mollendorff died at Ningpo. From 1882 to 1885 he was in the service of the Korean Government, and introduced many reforms, until the Koreans suspected him to be under the influence of Russia, and he was relieved Sept. 4, 1885. Rose island, dominating the harbor of Chemulpo, which had been bought by Japanese, was recovered by the Korean Government. A great outbreak in May in Quelpaert island, arising chiefly from the levying of excessive tolls, in which the adherents

of the French missionaries suffered, called for the despatch of a large military force and a French gunboat, which arrived after the troubles had been quelled. The eightieth birthday of the Emperor's mother was celebrated June 19 with great festivities. In carrying out the renovation of Seoul, much work has been done in the park near the great white marble pagoda, famed throughout Asia, which was erected in a monastery during the splendid Buddhist age, before Seoul was founded. The rice crop, owing to the omission of the usual rainy season, proved for the most part a failure. Export was for a time prohibited, and 300,000 bags of rice from Annam were imported. The Koreans on Kang-wa island have erected tablets to the memory of the slain at the hands of the Americans in 1871, when the marines and sailors from Rear-Admiral John Rodgers's fleet were led by Commander (now Rear-Admiral) Winfield S. Schley. A memorial service in honor of the late President McKinley was held in Seoul, Sept. 19, at which the diplomatic body was present in full force.

The year has been one of steady national progress and great activity and success among all the missionary bodies.

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LIBRARIES, PUBLIC. The following statements include additions to the general summary published last year, as well as a review of some of the principal events of 1901.

Increase of Libraries.—Statistics collected by the United States Bureau of Education in 1900 show that there has been a remarkable increase of libraries in the past five years. The number of libraries of 1,000 volumes or more was found to be 5,383, containing 44,591,851 volumes. Comparison of these figures with those of the bureau's report in 1896 discloses an increase of 1,357 libraries and 11,539,979 volumes (almost 35 per cent.). While the North Atlantic division has 2,473 of these libraries (New York alone having 718, Massachusetts 571, and Pennsylvania 401) and more than half of the number of volumes, the largest gains have again been in the North Central (40 per cent.) and Western (38 per cent.) divisions, Oklahoma showing 379 per cent. increase, and Arkansas, Indian Territory, New Mexico, North Dakota, South Dakota, and West Virginia more than 100 per cent. each. The North Central division has 1,728 libraries and 11,211,710 volumes, the South Atlantic division 421 libraries and 5,303,237 volumes, the South Central division 374 libraries and 1,886,731 volumes, and the Western division 387 libraries and 2,779,596 volumes. There is an average of one library to every 14,118 persons, and 59 volumes to every 100 population (in 1896 the number was 47). In New York there are 103 volumes to every 100 of population; in Massachusetts, 236; in California, 120. Of these libraries 4 have over 500,000 volumes each, 3 between 300,000 and 500,000, and 47 between 100,000 and 300,000; 3,654 have fewer than 5,000 each. Financial statistics were given by some libraries. Of these, 1,016 received \$2,349,294 through State, county, or city appropriations; 988 received \$2,213,715 from taxation; 714 received \$1,198,955 from endowment funds; 962 received \$488,130 from membership fees and dues; 294 received \$50,742 from book-rents; 819 received \$551,522 from donations; and 1,474 received \$1,000,048 from sources not stated. The total income of 3,115 libraries was \$7,812,406. The ag-

gregate of the endowment funds reported by 645 libraries is \$25,267,643, and the value of buildings owned by 710 libraries is \$47,083,805. The amount expended for books in the year by 2,972 libraries was \$2,056,675.

The libraries having fewer than 1,000 and more than 300 volumes now number 3,878, and contain 2,018,658 volumes. This makes the number of all libraries having more than 300 volumes 9,261, with a total of 46,610,509 volumes, a total gain of 2,077 libraries and 12,014,251 volumes. There are, besides, several thousand libraries having fewer than 300 volumes each.

Gifts.—According to the report presented to the American Library Association, more than \$16,000,000 were given to American libraries in the year ending July 1, 1901. Some of the details will be found in the present volume under GIFTS AND BEQUESTS, but reference must be made here specially to Andrew Carnegie, whose gifts during the period in question reached the aggregate of \$11,219,500.

New York City's Library System.—The figures above include Carnegie's gift of \$5,200,000 to the city of New York for a system of 65 branch libraries, of which 42 go to the boroughs of Manhattan, the Bronx, and Richmond, to be controlled by the New York Public Library, the rest to Brooklyn. In New York city (borough of Manhattan) the New York Free Circulating Libraries (January, 1900), the St. Agnes Free Library (1901), and the Washington Heights Library (1901), have become circulating branches of the Public Library, and a State law makes it possible for any other circulating libraries to consolidate with the New York Public Library without further formality; similarly in Brooklyn, most of the smaller libraries have been brought within the fold of the Brooklyn Public Library. The establishment of 8 libraries in the public schools of Manhattan, controlled by the Public Library, is a move the results of which will be watched with interest. It brings the library into intimate relations with the schools.

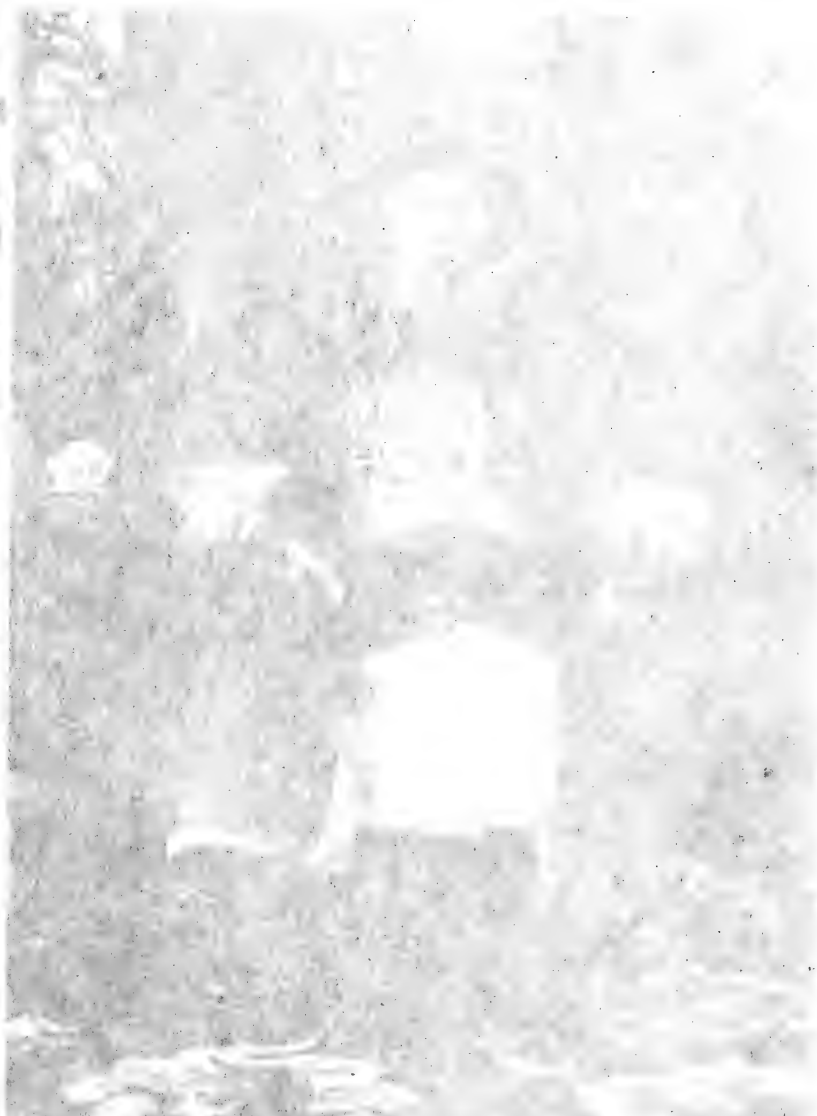
Print Departments.—In 1900 the New York Public Library decided to establish a department

of prints, and Samuel P. Avery presented his remarkable collection of more than 17,000 etchings and lithographs to that institution. Since then, exhibitions of the works of Turner, Whistler, Rembrandt (loaned by J. Pierpont Morgan), and others have been held. Print departments are a recognized factor in large European libraries, such as the British Museum, the Bibliothèque Nationale, and the Hofbibliothek in Vienna. Many years of opportunities for purchasing on the spot, state aid, and, above all, appreciation of art—these have obviously been the advantages that made such large and fine collections possible. The taste for such things is of more recent date here. There is now a print department in the Congressional Library at Washington, and one in the Fogg Art Museum in Harvard University. The Boston Museum of Fine Arts has an excellent collection, and the Pennsylvania Academy of Fine Arts possesses about 60,000 prints. There are also private collectors of discriminating taste. Before the Public Library formed this new department, New York city had no public collection of prints. Mr. Avery's good example has already been emulated by Charles Stewart Smith, C. B. Curtis, and other donors. These accessions, together with the prints that were in the library before (coming from the Lenox, Duyckinck, Tilden, Ford, and other collections), form a noteworthy beginning. A certain amount of this material has a historical rather than an artistic interest. In fact, in an institution like this, the usefulness of prints is emphasized. Portraits, views of places and buildings, historical scenes, costumes, ships, vehicles, and the thousand and one other things that form documents for the social history of mankind, are to be found in a well-conducted print-room and form a store of material to be drawn upon by the artist, the historian, the author, the actor, students of various specialties, and the general reader as well. The fact that most prints can be put to such use does not detract from their artistic value.

LI-HUNG-CHANG, a Chinese statesman, born in Ho-Fei, Nganwei, Feb. 16, 1823; died in Peking, Nov. 7, 1901. He received the degrees of bachelor and master, and in 1847 that of doctor of the Han-Lin Academy. But his rapid rise to prominence and power was not due to scholarship and literary elegance, but to his association with Col. Gordon in the suppression of the Taeping rebellion. He was sent to his native province in 1853 to exercise the troops. He secured the services of Frederick T. Ward (an American) and Charles George Gordon; and when their trained troops with European arms turned the tide in favor of the Government he was made commander-in-chief of the imperial army, and he bore off the honors when the great danger to the dynasty was overcome by the final victory over the rebels in 1864. Although Gordon, to whose ability to organize and train the Chinese soldiers for real fighting the victory was largely due (Ward was killed in 1862), had promised the rebel leaders at Suchow their lives, he was overruled by Gen. Li, who gave orders that all should be killed. This perfidious act gained for him elevation in rank and political promotion. He was already Governor of Kiangsu, and in 1865 he was appointed viceroy of the two Kiang provinces. In December, 1866, he was nominated minister plenipotentiary, and in February, 1867, was made Viceroy of Hong-Kwang. He became a member of the Grand Council in 1868, was sent as imperial commissioner to Szechuen in 1869, and in August, 1870, in consequence of the Tientsin massacre, his diplomatic, political, and military abilities and special ac-

quaintance with Europeans and their methods won for him the appointment of Viceroy of Pechili, the metropolitan province. In this post he remained twenty-four years, during which he was practically Chancellor of the empire and guardian of the throne, retaining the confidence of the Empress Dowager, and having such a predominant voice in the counsels of the empire that, while his adherents and sycophants were innumerable, his foes were bitter and not few. In foreign affairs he had unchallenged control, and in the introduction of Western technical methods, in starting coal-mines, metallurgical industry, steamship navigation, telegraphs, and railroads, he took the foremost part. As governor and viceroy of the richest provinces he had amassed an enormous fortune through the Chinese custom of giving presents or bribes for promotion and other official favors; and when he was placed at the head of the capital province and became the strongest politician at court his revenue from gifts grew apace. In the capitalistic enterprises that he founded he embarked his own fortune freely, and saw to it that it did not diminish. With provincial and imperial funds he began a Chinese navy, and he engaged foreign officers to teach European tactics and the use of firearms to a corps of picked troops that he intended to be the nucleus of an imperial army able to meet European troops in the field. Arsenal and arms factories were established with foreign managers and technical instructors. He encouraged also schools of Western learning, and was himself a believer in the medical skill of foreign physicians. His intellect was as keen and critical, and as free from the trammels of heredity and environment, as that of any contemporary statesman. He was as confident as any Chinaman of the essential superiority of Chinese civilization, but was conscious of the military and political weakness of China, and was not alone in his desire and endeavor to make China strong enough to resist external foes. In the Korean crisis his diplomatic craft did not avail. He had to defy Japan in a matter that touched national pride and imperial prestige, and when the Japanese declared war and proceeded to invade Chinese territory the court looked confidently to him to crush the audacious manikins with his European-drilled troops. Although he was probably the only Chinese official who recognized from the beginning that the war was hopeless, he had to accept the post of commander-in-chief. His trained troops he did not send against the Japanese, but kept for the defense of Peking, together with the best of the Manchu regiments. He gathered the worthless provincial soldiery, whose officers had to fill out their ranks with vagabonds and criminals, to be food for Japanese powder in Manchuria while he could organize a more effective line of defense for the capital province. His fleet he made the best use of that he could, and his officers and gunners fought both well and ill according to their partial knowledge and imperfect training; but neither ships nor sailors could accomplish anything against the thoroughly modern Japanese navy. After defeat was acknowledged he had to bear the odium, but he escaped the usual fate of unsuccessful generals because there was no other diplomatist as capable as he of making terms with the victorious enemy. He was degraded, stripped of his yellow jacket and peacock plume, and sent into retirement for a brief season to save the face of the court, and then was recalled, though with lessened rank, and sent to Japan as minister plenipotentiary to treat for peace. He obtained better conditions than could have been got by any other Chinaman. At

光緒二十七年正月廿二日



TRANSLATION

At the right of the portrait :

Li-Hung-Chang, Earl of the First Class, and Grand
Chancellor of the Chinese Empire.

At the left :

Kwang-hsü, twenty-seventh year, sixth month, and
twenty-second day [1901].

TRANSLATION

At the right of the portrait:

Li-Hung-Chang, Part of the First Class, 1901.
Chancellor of the Chinese Empire.

At the left:

Kwang-hsi, twenty-second year, 1901.
twenty-second day, 1901.

大清人學士一壽素敬伯步鴻



光緒二十七年正月廿五日

the same time he secretly courted the interposition of the European powers, and by giving secret pledges to Russia gained what appeared to be a diplomatic victory when that power stepped in and, backed by Germany and France, forbade the retention by Japan of the Liao-Tung peninsula, which the Japanese were not unwilling to evacuate. He played Great Britain against Russia, but with all his craft could not prevent the seizure of naval stations by the powers when Russia took Port Arthur and began the Manchurian Railroad. His guiding influence at Peking passed over to reactionary Manchus, and he became again a provincial ruler. The Boxer outbreaks and the anti-foreign counsels at court he was not in the position or on the spot to prevent. The occupation of Peking by the allied troops proved to the anti-foreign Chinese that they were still unable to carry on war against Europeans. Li alone held the keys of Chinese diplomacy, and had never lost the confidence of the Empress Dowager, who owed her ruling position no less to him than he owed to her his advancement. During the crisis he appealed, with the other southern viceroys, to the powers to respect the sovereign rights and the territory of China. When he was first recalled to Peking the allies forbade his passage, and he had no intention of going at that moment. The British distrusted him as a friend of Russia; but the Russians did not trust him, knowing that he was alive only to the interests of China. When the conditions for the evacuation of Pechili had to be discussed, Li-Hung-Chang was appointed at the head of the Chinese commission, having full powers to treat with the foreign ministers at Peking. He was an invalid subject to crises that brought him to death's door; yet all the negotiations were conducted by him. It was his skill and authority in diplomacy that brought the powers and the Chinese court into final agreement. When Russia pressed on China during the joint negotiations the Manchurian convention, Li appealed in protest to the powers, and Russia deferred the matter till after the peace negotiations were concluded. Then the negotiations with Russia were resumed, and Li's death was said to have been caused immediately by the heat and anxiety with which he resisted some of the Russian demands at one of his conferences with the Czar's minister. Although he knew no European language, Li-Hung-Chang always was glad to meet eminent foreigners who visited China, and always impressed them with his fine presence and dignified manners, and interested them with his searching questions, his artful compliments, and his shrewd and humorous criticisms and broad philosophy. In 1896, after attending the coronation of the Czar, he made the tour of Europe and the United States, and was so accessible and genial wherever he went that no Chinaman was so well known abroad.

LITERATURE (FICTION), AMERICAN.

The utter futility of the perennial effort to deduce from literary phenomena a general law that shall change criticism from an art into a science becomes more apparent with every passing year. Aristotle, Plato, Sainte-Beuve, Emerson, Barrett Wendell, and the anonymous journalistic book reviewers have vainly sighed for a working formula that should sift the chaff of print from the wheat of literature, a golden rule of letters from which no appeal could be taken by author, publisher, or reading public. How ancient and how futile is this quest for an infallible touchstone that shall enable the critic to distinguish at once between the counterfeit and the real in any line of art is amusingly suggested by Rudyard Kipling in his satirical poem *The Conclusion of the Workshops*:

When the flush of a new-born sun
 green and gold,
Our father Adam sat under the tree and
 stick in the mold,
And the first rude sketch that the world had
 joy to his mighty heart,
Till the devil whispered behind the leaves, "It's
 but is it art?"

To the literary critic who glances casually back upon the output of American fiction during the opening years of the twentieth century comes, perhaps, the melancholy thought that "we know as much as our father Adam knew." We see novels that defy almost every recognized rule of fiction-writing winning the most astounding success from a commercial standpoint, while the judicious grieve and marvel at the seeming preference of the public for the bud to the blossom, for the fragment rather than the completed whole.

The conservative critic holds, to use a mathematical illustration, that the novel should be cubical in form, but, lo! Kipling, Bacheller, and others give it a linear demonstration, and point for vindication to their green laurels and yellow gold.

One of the perils, however, that the critic of contemporary fiction must avoid lies in mistaking striking exceptions for proofs of a general tendency. While it is true that the elongated character sketch or the amorphous presentation of local color masquerading in the garb of novels have won rich rewards for their authors and publishers, it is satisfactory to observe that fiction of a higher order, showing more regard for the traditional obligations of its own art form, has not failed of popular recognition. The applause won by Gilbert Parker's *The Right of Way* from both the public and the critics restores our faith in the ultimate triumph of the axiom, as true in art as in mathematics, that the whole is greater than any of its parts, that a fragment can never be anything but a fragment. *The Right of Way* is a novel—that is, it is an artistic presentation of human life, combining narrative interest, character drawing, and development, the interplay of physical and psychical forces in the forging of individual destinies; not disdaining the devices that beget suspense, nor the cumulative effects that produce both minor and major climaxes. Here is no overemphasis in the wrong place, no thrusting of too great a load upon the shoulders of a single character, no effort to make an environment do duty in place of a plot, or a quaint remark in dialect satisfy the reader's longing for an episode. It is not too much to say that Mr. Parker is one of the comparatively few successful novelists of the day who realize that they owe many obligations to their readers, that vivid description can not atone for lack of ingenuity in plot, nor one effective bit of character work satisfy the demands of a long novel.

"The strenuous life" is an expression that has come into general vogue of late. Uttered first by the President of the United States, who has demonstrated the efficacy of his practical philosophy, it has taken its place as a phrase that represents the intensity of modern effort in various lines of endeavor. That the young century has great work to do in old and new fields of activity is a creed to which the dominant nations of the earth unanimously subscribe. But for what we call modern progress we are still seeking a sanction. There are those who ask it from religion, those who demand it of science, and still others who

seek in literature the revelation that shall justify the varied, and seemingly cruel, activities of contemporary existence. Fiction has thus come to mean more to this generation than to our forefathers. We demand of it not merely amusement, but enlightenment; not that it shall simply tickle our jaded imaginations, but that it shall widen and clarify our vision of life. The novelist is no longer looked upon as a maker of toys—though many are the playthings of an hour that he puts forth—but, in his highest development, as a seer, a prophet, a guide, teacher, and, it may be, reformer. "Fiction," says Hamilton W. Mabie, "is unquestionably the most attractive and influential form through which men of literary genius express themselves to-day; and no fact of social significance, no human relationship, no class limitation, capacity, or condition, will escape the instinctive search for life which possesses this generation." In this search for life, and the ultimate significance of the phenomena of this life, the newer and higher realism is beginning to make itself manifest. In *The Octopus*, by Frank Norris, and in *The Portion of Labor*, by Mary E. Wilkins, we find a realism that is almost epic when compared with the tentative, tea-table realism of a school that saw and depicted clearly only the inessential, insignificant features of contemporary existence. It would be easy to point out glaring defects in either one of these products of a tendency in realistic fiction that promises much for the future. It does not require keen critical insight to find in Norris a habit of repetition that is at times annoying, nor to observe that he is not always masterly in the manipulation of his material. Neither is it difficult to grasp the fact that Miss Wilkins has sacrificed much of the strength of her powerful story for the sake of a conventional ending. These and other minor indictments may be justly lodged against the novels under discussion, but when every legitimate reservation has been made, it can still be said with truth that *The Portion of Labor* and *The Octopus* add much to the dignity of recent American fiction and stand forth as pioneer efforts in a broader and nobler realism than this country has yet produced.

The classification of Winston Churchill's *The Crisis*—from various points of view the most important American novel of the year—is somewhat difficult. Combining deftly both romance and realism, fact and fiction, historical personages and imaginary characters, it won success at a bound, and apparently promises to retain a permanent place among the few novels of the day that bid fair to be read by posterity. When it was announced that the brilliant young author of *Richard Carvel* was at work upon a novel dealing with the mighty tragedy of the civil war, to come forth under the all-embracing title of *The Crisis*, the hope was widely entertained that the heroic splendor of the nation's titanic struggle for preservation might find at last an adequate presentation in fiction. Now, if ever, was the long-heralded "great American novel" to be given to a people weary of watching and waiting for its advent. All the conditions seemed to be favorable to the fulfilment of this hope. In *The Celebrity* and *Richard Carvel*, Churchill had displayed many of the qualifications that must be possessed by the author who shall satisfy a self-conscious nation's craving for an epic tale that shall serve for all time as the American *Iliad*. Careful in his workmanship, always readable, and never hysterical, possessing the narrative gift and a firm grasp of the more obvious manifestations of character, in thorough touch with the whole history of the

nation's growth, broad in his sympathies, and harboring no narrow sectional prejudice, Churchill was splendidly equipped for the task that he had essayed. To say that *The Crisis* has not fully satisfied the high hopes of an appreciative public is not to assert that it is not a novel of which the author and the nation may well be proud. Its shortcomings are not a reproach to the writer, but serve to emphasize the impossibility of depicting upon a single canvas the multitudinous contrasts begotten by the most complex and stupendous national tragedy of modern times. Mr. Churchill's success has consisted in giving to us a very real and convincing presentation of various episodes in one of the rebellion's areas of high pressure, and of Lincoln, Grant, Sherman, and other leading actors in the great melodrama of the war. But is it unfair to the author of *The Crisis* to assert that to justify the all-embracing title of his story he should have followed the precedent established by European novelists who have made use of epic material, basing the outcome of his tale upon the result of some great battle that settled the fate not of a campaign but of a whole war? Could not Gettysburg have served in *The Crisis* the end accomplished by the battle of Borodino in Tolstoi's *War and Peace*? The question is asked not in a spirit of carping criticism, not in black ingratitude for what Winston Churchill has actually achieved, but to illustrate the generally accepted proposition that while *The Crisis* has won, and will always hold, a very high place among American historical novels, it has not said the last word in fiction concerning the war of the rebellion.

The Cavalier is another tale of the civil war that must be mentioned among the notable books of the hour. Its author, George W. Cable, has held for many years a foremost position among American novelists. Perhaps, when his work is considered in its entirety, he may be placed by future critics in the highest place among the American fictionists of this generation. But it is safe to say that his strongest claim to the regard of posterity will not be made by his latest novel, brilliant in many ways as *The Cavalier* unquestionably is. While several of the situations in the story, handled with the deftness of a master of tale-telling, are equal in power and interest to any to be found in his earlier novels, the book as a whole is more conventional and less characteristic and convincing than *The Grandissimes*, *Dr. Sevier*, or *Old Creole Days*. One feels in reading *The Cavalier* that its author has made concessions to contemporary demands by the public somewhat in defiance of the dictates of his real genius. Nevertheless, Mr. Cable's novel is a striking and most readable contribution to the fiction of a year that has not been rich in the work of writers whose fame time has guaranteed as genuine.

There is danger that a critic, as was said above, may mistake delusive exceptions for a general tendency, and it is especially difficult for one who reviews the published fiction of a given year to make safe generalizations that shall serve to clarify the present outlook and to throw a gleam of light upon the immediate future. If, as has been intimated above, American fiction has shown of late a tendency toward a more comprehensive and exalted realism than it has yet known, it has, upon the other hand, displayed this year a marked enthusiasm for what is somewhat vaguely called the romantic school. With its insistence upon an adequate interpretation through novels of the life of to-day, the reading public demands at the same moment new tales of old times, a

modern representation in fiction of the polychromatic and intensely human past, for the strenuous life, but recently named though it may be, has been lived for countless generations, and a hero is a hero whether he died in velvets at Versailles or survives in khaki at Manila. The historical romance, bitterly assailed by intensely conscientious opponents as a bastard form of literary art, still ruffles it with the best-selling books of the day. In fact, the prince, the swashbuckler, the king's favorite, the cardinal, the colonial governor, the exile from court and the courtier in exile, have been much in evidence this year, undergoing all kinds of shocking adventures, but carrying themselves with more reverence for the obligations of time and space than their ancestors, sprung from the pen of the elder Dumas. Romance has made this concession to realism of late, that it forswears all manifestations of hysteria and submits to the despotism of the multiplication table. It also seeks self-justification in an increasing regard for the historical sources from which it obtains its working material, and, other things being equal, prefers an established fact to a flight of fancy. The liberties taken with history by Dumas, Scott, G. P. R. James, and other romancers of a former generation, would be considered sacrilege by Weyman, Doyle, Mary Johnston, and Bertha Runkle. The last name mentioned, by the way, has become widely known this year through one of the most readable of recent historical romances, a story cleverly constructed, brilliantly sustained, full of action but not devoid of those delicate touches that are so often lacking in tales of adventure. The *Helmet of Navarre* has won its notable success through its legitimate claims to a high place among novels of the romantic school. When an author in these days daringly harks back to the shop-worn times of Henry of Navarre to tell a new tale of a period that has seen much service in the cause of fiction, the chances of failure are many. In *The Helmet of Navarre*, however, Miss Runkle has avoided the Scylla of imitation upon the one hand and the Charybdis of too much novelty on the other. Conforming to the obligations that she was under both to the historians and to her readers, she has written a novel that has been received with enthusiasm by the devotees of romance and by those more catholic readers of fiction who can derive satisfaction from George Gissing one day and from Stanley J. Weyman the next.

It is an interesting fact that while in England men are writing the most successful of the historical tales, in the United States women are winning most of the prizes offered by the romantic school of fiction. Mary Johnston's high place among the romancers of this generation is well assured, and her latest story, running serially this season in the *Atlantic Monthly*, promises to achieve the vogue gained by her *Prisoners of Hope* and *To Have and to Hold*. Sarah Orne Jewett, in *The Tory Lover*, has employed Revolutionary material to advantage, telling a tale of Paul Jones and his times that is sustained in interest and charmingly related. But the garden of romance has not been abandoned wholly this year to the discriminating enthusiasm and skill of American women. In *Cardigan*, Robert W. Chambers has given to his innumerable admirers a fascinating tale of adventure dealing with the efforts of Sir William Johnson to defeat the American Tories in their attempt to win various tribes of Indians to the cause of the King just before the outbreak of the Revolutionary War. Mr. Chambers, since the publication of his striking tale, entitled *The King in Yellow*, ten years

ago, has maintained a very high average of achievement in fiction. *Cosmopolitan* in his environments, equally at home in Europe or America, possessing a fertile fancy that rises in some of its manifestations to the height of genius, Mr. Chambers has gained for himself a prominent and permanent place among the writers of this generation. His latest work is a valuable contribution to the growing list of American historical romances and is entitled to more than passing notice among the novels of the year.

Joseph A. Altsheler continues to strengthen his position among the American novelists who gain inspiration from the heroic pages of our nation's past. Sympathetic, American in every fiber, in command of the technique of story-telling, his tales possess a fascination that is hard to analyze but the reality of which the public was quick to recognize and reward. His most recent work, *In Circling Camps*, finds Mr. Altsheler, in line with Cable and Churchill, making use of a part of the inexhaustible material bequeathed to the teller of tales by the civil war. This story of a great campaign is ingeniously woven and in it the reader comes upon much of the best work that this promising author has yet done.

In *D'ri* and *I*, Irving Bacheller has taken advantage of the vogue of his *Eben Holden* to win another popular success. Both of these stories possess striking merits and glaring defects. In the judgment of many seekers after the light that succeeds in literature, there has been nothing in the history of recent literature more surprising than the applause that has greeted Mr. Bacheller's later novels. That they possess an elusive, indefinable charm to a vast number of not too critical readers is clearly proved. In what that charm consists it is not easy to say. It may lie partially in the author's frank simplicity of style or altogether in the effective quaintness of his leading characters. Without the weaving of complex plots and in open defiance of many of the conventions of the art of novel writing, Mr. Bacheller has won the laurel wreath of success. And it would be unfair to this author and an unwarrantable comment upon the taste of the public to assert that his popularity is not justifiable. It is, indeed, no small achievement in literature to divide the novel readers of a great nation into two hostile camps, and if Mr. Bacheller finds that the tents of his admirers vastly outnumber those of their opponents he may well feel pleased with his remarkable feat.

No account of the year's literary activities would be complete without a grateful reference to the additions made by Henry Van Dyke to that short list of recent books that appeal both to the general public and to the daintiest and most conservative of literary epicures. Few are the contemporary writers of fiction whose style is inspired with that invaluable quality that we call distinction, that delicate aroma of a pleasing personality that makes itself felt in ways that we can not follow to their source, now manifesting itself in a delicate sense of word-values, now finding expression in a characteristic phrasing of a sentence, and always and delightfully dominant over the thought itself. There is no living American writer who displays this rare quality of style in a larger measure than the author of *The Ruling Passion*, a series of short stories that demonstrate anew Dr. Van Dyke's marvelous versatility. That he finds the time and energy to accomplish so much that will take a permanent place in American fiction is a cause both for astonishment and rejoicing.

Sarah P. McLean Greene is not a prolific writer,

so far as the public knows, but a novel from her pen is an affair of considerable importance to those who appreciate the vigor and delicacy, the romance and the realism, of her *Vesty of the Basins*. *Flood-Tide*, her latest novel, is worthy of its author. Dealing with the crude life of the fisher-folk of the Maine coast, it exhibits the same uncommon merits that have won for *Vesty of the Basins* a success more to be desired than the ephemeral popularity achieved of late years by many lesser novels that have in them no element of permanence.

After all, are we not forced to the conclusion that in our heart of hearts we are more grateful to the man or woman who gives us a convincing picture of some phase of contemporary American life than to the author who begets even the most brilliant romance dealing with the men and manners of a remote past? Duffield Osborne's *The Lion's Brood*, a vivid and scholarly tale of Hannibal's invasion of Italy, has added much to the enviable reputation of the author of *The Robe of Nessus* and *The Spell of Ashtaroth*. But while the title of "the George Ebers of America" is well worth winning, is it not a fact that Owen Wister, Charles W. Chestnutt, John Uri Lloyd, John Fox, Jr., Booth Tarkington, and others who are conscientiously and often brilliantly adding to the fiction that interprets American life in its varied phases to-day, are doing work that is of more insistent significance than any that the best-equipped writer of historical romance can accomplish? Whatever may be the answer to this question—and the answer depends largely upon the consideration whether the individual looks at fiction through the large or the small end of the telescope—it is safe to assert, in conclusion, that this year's production of American novels demonstrates the fact that there is nothing of narrowness in our national literary genius; that it is catholic in its choice of the media through which it seeks expression, and that in every department of fiction it has of late put forth either the flower of fulfilment or the bud of promise. Gazing as we now are at the foundation stones, we realize that the American fiction of the twentieth century is to rise to splendid heights, a glorious structure built upon old lines but with many new and impressive ornamentations.

LOUISIANA. (See under UNITED STATES.)

LUTHERANS. The Lutheran Church in America, with its ministrations in more than a dozen different languages, is a polyglot communion of growing strength. Its growing literature in English, together with its 75 English periodicals, will doubtless bring it into such publicity as will enable all who are interested in the progress of religion in the United States to become better acquainted with its character and operations. According to the latest statistics, gathered for the *Lutheran Church Almanac*, the Lutheran Church numbers 62 district synods, 6,914 clergymen, 11,425 congregations, and 1,705,185 communicant members, an increase over last year of 200 clergymen, 300 congregations, and 40,000 members. There are 4,034 parish schools, 3,994 teachers, and 190,095 pupils; 5,725 Sunday-schools, with 52,601 officers and teachers, and 570,129 scholars. The purely benevolent offerings for missions, education, and works of mercy, exclusive of contributions for local work, amount to \$1,185,958.92, an increase over last year of \$15,000. There are 114 institutions of learning, of which 23 are theological seminaries, 48 colleges, 32 academies, and 11 ladies' seminaries, with property valued at \$5,638,560, endowment amounting to \$1,660,452, libraries with 313,880 volumes, em-

ploying 818 professors and instructors, and having 12,990 students, of whom more than 2,500 have the ministry in view. There are 97 charitable institutions, of which 18 are hospitals, 43 orphanages, 17 homes for the aged, 8 deaconess institutions, and 11 immigrant and seamen's missions, with property valued at \$4,623,029, endowment amounting to \$522,269, and providing shelter and care for 35,632 inmates; or a total of 211 educational and benevolent institutions, having property valued at \$10,261,589 and endowment amounting to \$2,182,721, a total money value employed by the Church in furthering its various activities of \$12,444,310. This is all the more remarkable if we consider the fact that most of these institutions have been established within the latter part of the century just closed, and that none of them, except one, have been the recipients of large gifts from individuals. They have been built up with the small gifts of the people.

The Lutheran Church in this country is divided, not so much on account of doctrinal differences as on account of language and territory, into 4 general bodies, embracing 47 of the 62 district synods. There are not 19 different kinds of Lutherans in America, though there are 19 synodical bodies. Their differences are linguistic rather than doctrinal. Following is a brief summary of the statistics of the general bodies and independent synods:

GENERAL BODIES.	Number of synods.	Number of ministers.	Number of congregations.	Communicant members.
General Council.....	10	1,306	2,068	362,409
General Synod.....	24	1,210	1,561	198,575
Synodical Conference	5	2,079	3,755	590,987
United Synod, South.	8	206	405	57,958
Independent synods..	15	2,113	4,636	515,256
Total	62	6,914	12,425	1,705,185

Among the 15 independent synods are several large Scandinavian and German synods that are not yet sufficiently Anglicized to be identified with any of the 4 general bodies in the diversified interests of the Church at large. The Lutheran population in the United States and Canada numbers about 9,000,000, and that of the world about 65,000,000. Two of the general bodies held conventions in 1901.

General Synod.—This is the oldest general body of Lutherans in America, having been organized in 1821. It embraces 24 district synods, nearly all of which are composed of English congregations, and has a membership of 1,210 clergymen, 1,561 congregations, and 198,575 communicants, and 1,514 Sunday-schools with 195,137 pupils. The benevolent offerings for the year amounted to \$312,128.21. It has under its care and control 5 theological seminaries or theological departments in colleges, and 5 colleges. It is the largest English body of Lutherans in America.

The fortieth biennial convention of this body was held at Des Moines, Iowa, May 29 to June 6, 1901. The opening sermon was delivered by the retiring president, the Rev. Samuel F. Breckenridge, Sc. D., D. D., professor in Wittenberg College, Springfield, Ohio. The 24 district synods were represented by 120 clerical and 116 lay delegates, a total of 236. The Rev. William S. Freas, D. D., of Baltimore, Md., was elected president; the Rev. William E. Fischer, D. D., of Shamokin, Pa., secretary; and Louis Mauss, Esq., of Cincinnati, Ohio, treasurer. The principal business of the convention consisted in considering and acting on the reports of the boards by which the various

operations of the body are carried on in the interim.

Foreign Missions.—The thirty-first biennial report of the Board of Foreign Missions was read by the Rev. George Scholl, D. D., of Baltimore, Md., secretary of the board. The board has charge of missions in India and Africa. The total receipts for this work were \$120,254.72. Of this amount the district synods contributed \$62,399.89, the Woman's Missionary Society \$24,160.81, the Sunday-schools, \$22,148.51, and from legacies were received \$2,804.54. For the famine sufferers in India \$23,881.13 was received. The total expenditures, exclusive of the amount received for famine relief, were \$97,253.68. During the two years embraced in this report, the missionary force in India, with Guntur in the Madras presidency as the central station, consisted of 11 ordained American missionaries, 5 subpastors, 17 catechists, 100 assistants, 4 Bible and tract colporteurs, and 54 helpers. These labored in 607 villages, having 432 organized congregations and 139 chapels. The baptized membership is 17,811. The mission also engages 11 woman missionaries, 23 Christian and 29 secular teachers, in 16 schools, with 1,057 pupils; and 15 Sunday-schools, with 761 pupils. The medical department is in charge of two physicians and has a hospital and dispensary. The famine in India in 1900 called for special efforts on the part of the board and the missionaries in the field. Already toward the close of 1899 the dark cloud of famine began to lower over the great Indian Empire, with its 300,000,000 souls, and before March 1, 1900, the country was in the grip of the most terrible famine known in its annals. At the call of the India Conference the board issued an appeal to the Church for \$5,000 or \$7,000 for famine relief. The appeal was no sooner made than funds began to flow in until the board had received \$23,888.13, and the work of feeding the hungry began. The missionaries threw themselves into the work with energy, and no worthy case within their reach was overlooked. Large camps were established, and the most generous provision was made for the needy. About 60,000 persons were fed.

The work in the Muhlenberg mission, Africa, was carried on under great disadvantages. Four missionaries died of African fever, leaving only a few laborers in this important field and suggesting the necessity of abandoning the field. Owing to the disturbed condition of the mission, no reliable data can be given concerning this part of the work. The mission in India is in a flourishing condition, and has fine prospects for continued success.

Home Missions.—The sixteenth biennial report of the Board of Home Missions was presented by the secretary, the Rev. A. Stewart Hartman, D. D., Baltimore, Md. The total receipts for this work, including a small balance in the treasury, were \$101,342.57. Of this amount the district synods contributed \$66,055.38 and the Woman's Missionary Society \$11,758.77. The expenditures amounted to \$94,090.38. The report of the fifteenth biennium showed an enrolment of 141 missions. Of these, 3 were dropped, and 28 new fields were added, making the total number assisted by the board, during the whole or part of the time covered by this report, 166, an increase of 6 over the preceding two years, and the largest number ever aided in any single biennium. These are located as follow, as to States: California, 8; Colorado, 5; District of Columbia, 1; Illinois, 9; Indiana, 8; Iowa, 7; Kansas, 14; Kentucky, 3; Maryland, 9; Michigan, 3; Missouri, 2; Nebraska, 17; New Jersey, 6; New Mexico, 1; New York,

14; Ohio, 16; Pennsylvania, 39; South Dakota, 1; West Virginia, 2; Wyoming, 1.

Church Extension.—The sixteenth biennial report of the Board of Church Extension was presented by the secretary of the board, which showed receipts amounting to \$113,044. The total assets of the board are \$366,677.79. The number of appropriations made during the biennium, either as gifts or loans, was to 266 congregations.

Publications.—The assets of the Publication Society, including a well-equipped publication house in Philadelphia, are valued at \$161,242.12. The society publishes Sunday-school and missionary periodicals, of which the monthly issues number 300,000 copies. The society issued, in the period covered by the report, 14 new books, 14 new editions of books previously published, and 12 books published for the authors, making a total of 40 books.

Education.—The eighth biennial report of the Board of Education was presented by the secretary, the Rev. Henry C. Haithecox, D. D., of Columbia City, Ind. The board supports Midland College and the Western Theological Seminary, at Atchison, Kan. These institutions, established a few years ago, are doing excellent work for the Church in the West. About one-third of the pastors in the synods of Kansas and Nebraska are graduates of the college and the seminary. The German department is gaining in favor and is meeting the most sanguine expectations of its friends. Carthage College, at Carthage, Ill., has also been aided by the board. Hartwick Seminary, New York, is a link through which the synods of New York have cooperated with the board in its important and far-reaching work. The aggregate value of the property of these institutions is \$264,000. The receipts for this work, as reported by the board, amounted to \$26,993.67.

Deaconess Board.—The pastor of the Mother House of Deaconesses, at Baltimore, Md., the Rev. Frank P. Manhart, D. D., reported a steady development of the deaconess work in the general synod. There has been progress in the training-force, improvement in the equipment of the institution, and an advance in the grade of work. The mother house has 14 deaconesses, 9 probationers, and 2 candidates. The regular out-stations have been New York city, York, Pa., Tressler's Orphanage, and parish work in Baltimore. A new property has been acquired for the institution at Baltimore, at a cost of \$26,850, once the home of Roger B. Taney, Chief Justice of the United States, on which are buildings that will accommodate this growing institution for some time to come.

Miscellaneous.—The other business of the convention consisted in considering reports of various standing committees. Among these were reports of the National Lutheran Home for Aged, at Washington, D. C., which has property valued at \$50,000, and has cared for 16 inmates; the orphanage at Loysville, Pa., with property valued at \$75,000 and 175 inmates; the Sunday-school work; and statistics. The synod authorized the appointment of a representative to act with two others, one each from the General Council and the United Synod of the South, in holding a "Free General Conference." A conference of this kind has since been called to meet in Philadelphia, March 25, 1902. In response to the proposition made by the official visitor from the general council, a committee was appointed to consider in what ways the synod may enter into practical co-operation with the general council "without committing either body to any entangling alliances,

sacrifice of principles, or interference with synodical identity."

The next convention of this general body will be held in Baltimore, Md., beginning June 3, 1903.

General Council.—This body—composed of English, German, and Swedish congregations and pastors—was organized in 1867, and embraces 10 district synods, 1,305 clergymen, 2,068 congregations, and 362,409 communicants; 478 parish schools, with 617 teachers and 24,940 pupils; 1,733 Sunday-schools, with 16,012 officers and teachers and 213,019 pupils. The benevolent offerings for the year amounted to \$278,469.30. Under the direct control of this general body or its district synods are 3 theological seminaries, 7 colleges, 2 academies, 7 hospitals, 14 orphanages, 4 deaconess institutions, 6 homes for aged and helpless, and 2 immigrant missions, involving a property value of more than \$4,000,000.

The twenty-eighth convention was held at Lima, Ohio, Oct. 10-15, 1901. The opening sermon was delivered by the president, the Rev. Mattis C. Ranseen, D. D., Swedish pastor in Chicago.

There were 87 clerical and 49 lay delegates present at the convention. One newly organized synod—the Pacific—was received. The Rev. Mattis C. Ranseen, D. D., was reelected president; the Rev. Solomon E. Ochsenford, D. D., professor in Muhlenberg College, Allentown, Pa., was elected English secretary; the Rev. Gottlieb C. Berke-meier, D. D., of Mount Vernon, N. Y., German secretary; the Rev. Frank A. Johnsson, of Chicago, Swedish secretary; and William H. Staake, Esq., of Philadelphia, Pa., treasurer. Interest in the convention was increased by the presence of the Right Reverend Bishop Knute Henning Gezelius von Schule, Ph. D., D. D., LL. D., Bishop of Visby, Sweden, who presented the greetings of the Swedish Church and of King Oscar, in the German language, and after spending a day at the convention took his leave, giving his farewell in the English and Swedish languages. Among other things he said: "We do not wish to be bigoted. We are willing and desirous to learn from any and every portion of the Christian Church, but whatever we may learn from others, we can not, dare not, will not give up the Lutheran faith."

The principal business of the convention consisted in considering and acting on the reports of boards and committees, a brief *résumé* of which is here given:

Foreign Missions.—The report of the Board of Foreign Missions was presented by the Rev. William Ashmead Schaeffer, D. D., of Philadelphia. The mission is in the Madras presidency, India, with the city of Rajahmundry as its central station. It has 7 principal stations, with 330 out-stations, in which are laboring 5 ordained missionaries, 3 missionaries' wives, 5 zenana sisters, 2 native pastors, and 140 evangelists, catechists, and teachers. Two missionaries resigned in the past year and have returned to this country. On account of some difficulties connected with the work, the Rev. Frederick W. Weiskotten, of Philadelphia, was sent to India to inspect the field. He left in the early summer of 1900, inspected the various mission stations, and set out on his homeward voyage, but died at sea, Dec. 15, 1900. The work has been greatly hampered by the removal of workers, and the need of the mission is a larger force of missionaries. Two native pastors have been ordained recently, but still the force of efficient workers is not large enough to do the work demanded in the vast territory occupied by the mission. The work is divided into four departments—preaching the Gospel, gathering chil-

dren into the schools, visiting zenanas, and caring for the sick and needy. The Gospel is preached in 200 villages, in which are 6,159 Christians, 3,500 children are taught in the schools, and arrangements are in progress for the establishment of a hospital and dispensary in Rajahmundry. During the period covered by the report 1,157 persons were baptized and 225 confirmed. The receipts for this work were \$51,185.08, and the expenditures \$43,605.86.

In addition to the work in India, the General Council began missionary operations in Porto Rico in October, 1899. Two stations are occupied—San Juan and Catano—by one missionary and his wife, and one teacher. One English congregation has been established in San Juan, having 30 members, and services are held at Catano. The two Sunday-schools of the mission have 145 pupils. The receipts for this work were \$3,076.95, and the expenditures \$3,039.76. At this convention of the General Council the work in Porto Rico was entrusted to a special board, to be prosecuted with more vigor than could be done by the board, whose chief field of operation is in India.

Home Missions.—The home-mission work of this body is carried on by three general boards—English, German, and Swedish—and by the district synods in their respective territories. The English board sustained 22 missions in 10 States, with a membership of 2,336, who contributed \$1,501.41 to benevolent purposes, \$22,007.44 to local objects, and own church properties valued at \$176,750. The receipts for this work were \$44,632.44 and the expenditures \$44,596.56. The German board sustained 74 missions, with a membership of 3,634, chiefly in the Northwestern Territory of Canada and the States of Oregon and Washington. The receipts were \$8,090.40, and the expenditures \$8,039.37. The Swedish board reported 308 missions, with a membership of 10,760, in numerous States and Territories and in the Dominion of Canada, sustained at an expenditure of \$100,000. The entire home-mission work of the General Council embraces 287 missionaries, 615 missions—English, German, Swedish, Norwegian, Danish, and Slavonian—with a membership of 33,787 and 26,343 Sunday-school pupils, the missions owning property valued at \$1,520,834, and for whose support the sum of \$225,000 was expended in the past two years. Of these missions 168 are English, 136 German, 308 Swedish, the rest Danish, Norwegian, and Slavonian. They are located as follow: Alabama, 2; Alaska, 1; California, 5; Dominion of Canada, 84; Colorado, 11; Connecticut, 8; Delaware, 1; District of Columbia, 1; Florida, 6; Idaho, 4; Illinois, 30; Indiana, 8; Iowa, 9; Kansas, 7; Kentucky, 1; Maine, 4; Maryland, 1; Massachusetts, 8; Michigan, 19; Minnesota, 55; Missouri, 6; Montana, 7; Nebraska, 20; New Hampshire, 1; New Jersey, 24; New York, 37; North Dakota, 11; Ohio, 22; Oregon, 21; Pennsylvania, 127; Rhode Island, 2; South Dakota, 11; Texas, 11; Utah, 6; Vermont, 1; Washington, 11; West Virginia, 3; Wisconsin, 28; and Wyoming, 1; total, 615.

Publications.—The board has vigorously pushed its work in the line of publishing the official English organ of the council, a complete series of Sunday-school literature, embracing more than a dozen different publications, and the Church almanac in a greatly improved form, together with English and German publications of great value to the Church and the world. The receipts of the board were \$94,221.20. The board has secured a permanent location in Philadelphia, where a publication house has been established. To this must be added the large and well-equipped

Augustana Book Concern, the printing and publication house of the Augustana Synod, at Rock Island, Ill., whose receipts for the year 1900 were \$80,441.18.

Miscellaneous.—Other matters considered by the council at this convention pertained to the deaconess work, the Sunday-school work, cooperation with the other general bodies of the Church, provision for a more careful oversight of educational matters, and for a more thorough study of Lutheran church music.

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MCKINLEY, WILLIAM, twenty-fourth President of the United States; born in Niles, Ohio, Jan. 29, 1843; died in Buffalo, N. Y., Sept. 14, 1901. The story of his life, up to his first inauguration, March 4, 1897, is told in the Annual Cyclopædia for 1896, page 428, and his portrait is the frontispiece of that volume.

On March 6, 1897, the President issued a proclamation calling an extra session of Congress for March 15, and on that date he sent in a special message on the subject of the tariff. The result was the measure called "the Dingley bill," after Chairman Nelson Dingley of the Ways and Means Committee, which passed both branches of Congress, and by the signature of the President became a law.

After the passage of this bill there was a decided revival of prosperity. Many mills that had been closed resumed work, and there were other indications of returning confidence in the business world.

On May 17 the President sent to Congress a special message, asking for an appropriation for the aid of suffering Americans in Cuba, and in accordance therewith \$50,000 was appropriated for that purpose. The policy of the new administration toward Spain on the Cuban question had been a matter of much speculation. It soon became evident that it was to be marked by calmness and moderation. The President retained in office Consul-General Fitzhugh Lee, who had been appointed to his post by President Cleveland, although he sent a commissioner to Cuba to report to him on special cases; and the policy of the Government in relation to the suppression of filibustering remained unchanged. Gen. Stewart L. Woodford, the new minister to Spain, was instructed to deliver to the Spanish Government a message in which the United States expressed its desire that an end should be put to the disastrous conflict in Cuba, and tendered its good offices toward the accomplishment of such a result. To this message the Spanish Government returned a conciliatory reply, to the effect that it had ordered administrative reforms to be carried out on the island, and expected soon to put an end to the unfortunate war, at the same time begging the United States to renew its efforts for the suppression of filibustering.

As was generally expected, the opening of the administration was marked by a fresh agitation of the question of Hawaiian annexation. A new treaty of annexation was negotiated and was sent by the President to the Senate, but action upon it was postponed. Meanwhile the Japanese Government lodged a remonstrance against any such action on the part of the United States as might prejudice the permanent rights alleged in favor of the Japanese under the terms of the treaty between Japan and the republic of Hawaii or adversely affect the settlement of the diplomatic dis-

The next convention of this body will be held at Mansfield, Ohio, October, 1903.

The other two general bodies—the Synodical Conference and the United Synod of the South—held no conventions during the year. The latest accessible reports of their status and work are given in the Annual Cyclopædia for 1900. The large independent Scandinavian synods held conventions, and in the reports published give evidence of continued progress in their educational, missionary, and benevolent operations.

pute then pending in regard to the charged violation by Hawaii of the provisions of that treaty. The Japanese minister having disclaimed any ulterior unfriendly purpose of Japan, either in respect to the dispute or to the proposed annexation, the good offices of the United States were successfully employed with the Hawaiian republic to compose the controversy by the payment of a money indemnity to Japan, which amicably closed the incident before the final annexation of the islands to the United States. This was effected on Aug. 12, 1898, by the act of the Hawaiian President in yielding up to the representative of the Government of the United States the sovereignty and property of the Hawaiian Islands, in accordance with the terms of a joint resolution of Congress, approved July 7, 1898, whereby the purpose of the annexation treaty was accomplished by statutory acceptance of the offered cession and incorporation of the ceded territory into the Union.

A prominent incident in foreign affairs was a despatch sent by Secretary Sherman to Ambassador Hay, at London, regarding the Bering Sea seal question, which was criticized because of the recital of the facts of the preceding award of the Paris Bering Sea Commission and the discussion which followed in order to show that Great Britain stood committed to a revision of the Paris rules for the regulation of seal-catching. On July 15 it was announced that Great Britain had finally consented to take part, with the United States, Russia, and Japan, in a sealing conference in Washington in the autumn of 1897; but later Lord Salisbury declared that he had been misunderstood, and the conference convened in November without British delegates, although Sir Wilfrid Laurier, the Canadian Premier, was present unofficially.

In the summer of 1897 the reports of great gold discoveries on the Klondike river in British territory near the Alaskan boundary caused much excitement, recalling, especially on the Pacific coast, the days of the early California gold-fever. So many expeditions set off almost at once for the north that the administration found it necessary to warn persons of the danger of visiting the arctic regions except at the proper season and with careful preparation; and to preserve order in Alaskan territory near the scene of the discoveries the President established a military post on the upper Yukon river. On April 7, in response to a message from the President asking for relief for the sufferers by flood in the Mississippi valley, Congress appropriated \$200,000. Much favorable comment was caused at the beginning of the administration by President McKinley's evident desire to make himself accessible to the public. On April 27, accompanied by his Cabinet, he attended the ceremonies connected with the dedication of the Grant Monument in Riverside Park, New

York, and immediately afterward he was present at the dedication of the Washington Monument in Philadelphia.

President Cleveland, in his last annual message, had stated plainly the position of the United States on the Cuban question, saying that the suppression of the insurrection was essentially a matter for Spain, that this country would not fail to make every effort to prevent filibustering expeditions and unlawful aid of any kind for the rebels, but adding the warning note that a time might come when intervention would be demanded in the name of humanity, and that it behooved Spain to end the struggle before this should become necessary. This was hardly a statement of party policy, but rather the expression of the sentiment of the whole country, and after the first year of the new administration it was seen that its policy had been much along those lines. In his note of Sept. 23, 1897, Gen. Woodford had assured the Spanish Minister of Foreign Affairs, the Duke of Tetuan, that all the United States asked was that some lasting settlement might be found which Spain could accept with self-respect, and to this end the United States offered its kindly offices, hoping that during the coming month Spain might be able to formulate some proposal under which this tender of good offices might become effective, or else that she might give satisfactory assurances that the insurrection would be promptly and finally put down.

A change in ministry took place in Spain, and the Liberals succeeded to power. The new Foreign Minister, Señor Gullon, replied to the American note on Oct. 23, suggesting more stringent application of the neutrality laws on the part of the United States, and asserting that conditions in the island would change for the better when the new autonomous institutions could go into effect. This measure of self-government was proclaimed by Spain on Nov. 23, 1897. The insurgents rejected it in advance; the Spanish Cubans who upheld Weyler's policy were equally vigorous in denouncing it; the remainder of the population was inclined to accept it, as it was in lieu of anything better, although it fell far short of what they had been led to hope for. It stipulated, among other things, that no law might be enacted by the new Legislature without the approval of the Governor-General; Spain was to fix the amount to be paid by Cuba for maintenance of the rights of the Crown, nor could the Cuban Chamber discuss the estimates for the colonial budget until this sum had been voted first; furthermore, perpetual preferential duties in favor of Spanish trade and manufactures were provided for. The formal inauguration of the system took place in January, 1898, but it was evident that there were irreconcilable differences between the members of the ministry as well as between their followers, although a certain well-wishing toward the new measure was manifested by the insurgent party, many of them returning from the United States or coming from the field of hostilities to submit themselves under Marshal Blanco's proclamation of amnesty; yet early in January, 1898, the Spanish party broke out in such serious demonstrations and rioting against the autonomists and the Americans in Cuba that Consul-General Lee recommended the sending of an American man-of-war to Havana, as much for the moral effect of its presence as for the protection of American property there in the imminent and unfortunate contingency of disturbance.

The tone of the press in the United States had been growing more serious. The failure of the autonomous constitution was evident, the mili-

tary situation was growing worse, the loss of life on the part of the helpless non-combatants caused by the reconcentration policy of Weyler was daily more appalling; it was clear that the situation was nearing a crisis. Señor Canalejas, editor of a Madrid paper, made a voyage to Cuba at this time, to see the actual position. He stopped in the United States, called on his friend Dupuy de Lôme, the Spanish minister at Washington, and then went to Havana. Soon after the departure of Canalejas, De Lôme wrote him a private letter, in which he criticized severely the policy of the President in regard to the Cuban question, and characterized him as a vacillating and time-serving politician. This letter, obtained surreptitiously, was published widely in the press on Feb. 8, and later the original letter was communicated to the Department of State. The following day Señor de Lôme, in a personal conference with Assistant-Secretary Day, admitted its genuineness, said he recognized the impossibility of continuing to hold official relations with this Government after the unfortunate disclosure, and added that on the evening of the 8th, and again on the morning of the 9th, he had telegraphed to his Government, asking to be relieved of his mission. Immediately after this conference a telegraphic instruction was sent to Gen. Woodford to inform the Government of Spain that the publication in question had ended the Spanish minister's usefulness, and expressing the President's expectation that he would be immediately recalled. But before Gen. Woodford could present this instruction the Cabinet had accepted the minister's resignation. Three days later Gen. Woodford telegraphed to the department a communication from the Minister of State expressing the sincere regret of his Government at the act of its representative. On Feb. 17 Señor Polo y Bernabe was appointed to succeed Señor Dupuy de Lôme as Spanish minister to the United States.

The excitement caused in the United States by this incident was still fresh when it was quickened into deeper and graver feeling by the destruction of the United States battle-ship *Maine* in the harbor of Havana. After the riots in January, 1898, Consul-General Lee had asked for an American man-of-war to protect the interests of this country. The Spanish authorities were advised that the Government intended to resume friendly naval visits to Cuban ports; and they replied, acknowledging the courtesy, and announcing their intention of sending in return Spanish vessels to the principal ports of the United States. The *Maine* reached Havana on Jan. 25, and was anchored to a buoy assigned by the authorities of the harbor. She lay there three weeks. Her officers received the usual formal courtesies from the Spanish authorities, and Consul-General Lee tendered them a dinner. The sailors of the *Maine* did not receive shore liberty, owing to the ill-disguised aversion shown to the few officers who went ashore. The treatment of officers and crew by the Spanish authorities was perfectly proper outwardly, although no effusive cordiality was shown. At forty minutes past nine o'clock on the evening of Feb. 15, while the greater part of the crew were asleep, a double explosion occurred forward, rending the ship in two and causing her to sink instantly. Out of a complement of 355 officers and men, 2 officers and 258 men were drowned or killed and 58 were taken out wounded. Capt. Sigbee telegraphed a report of the occurrence to Washington, and asked that public opinion be suspended until further details were known. Marshal Blanco informed Madrid that the explosion was due to an accident caused by the bursting of a dynamo-

engine, or combustion in the coal-bunkers. The Queen-Regent expressed her sympathy to Gen. Woodford, and the civil authorities of Havana sent messages of condolence, but no official expression of regret was then made by the Spanish Government. When the naval court of inquiry reached Havana the local naval authorities offered to act with them in investigating the explosion, but the offer was declined. Thereupon Spain made an independent investigation. The conclusions of the American court of inquiry were that the explosion was not due to the officers or crew, but that it was caused by a submarine mine underneath the port side of the ship. The court found no evidence fixing the responsibility upon any specified person or persons. It was not until several weeks later, when the findings of the American court had been announced, and the heat of popular sentiment made war inevitable, that the Spanish Government protested to Gen. Woodford against our *ex-parte* investigation, alleging that a verdict so rendered was unfriendly, and asked that a joint investigation or else a neutral examination by expert arbitrators should be made to determine whether the explosion was due to internal or external causes. This proposal was declined by President McKinley. The investigation conducted independently by the Spanish Government found that the explosion on the Maine was accidental and internal.

War was now only a question of time. On March 7 two new regiments of artillery were authorized by Congress, and on March 9 \$50,000,000 for national defense, to be expended at his discretion, was placed at the disposal of the President. This action was hailed with enthusiasm throughout the country and commanded wide-spread attention and admiration abroad. The speeches of Senator Proctor and others who had visited Cuba carried great weight. The President asked for a bill providing a contingent increase of the army to 100,000 men, which was passed at once. Spain on her part put forth every effort to reinforce the army in Cuba and to strengthen the navy. On March 23, after the President had received the report of the naval court of inquiry, Gen. Woodford presented a formal note to the Spanish minister warning him that unless an agreement assuring permanent, immediate, and honorable peace in Cuba was reached within a few days the President would feel constrained to submit the whole question to Congress. Various other notes were passed in the next few days, but the Spanish notes were regarded by the President as dilatory and entirely unsatisfactory.

On April 7 the ambassadors or envoys of Great Britain, France, Germany, Italy, Austria, and Russia called on the President and addressed to him a joint note expressing the hope that humanity and moderation might mark the course of the United States Government and people, and that further negotiations would lead to an agreement which, while assuring the maintenance of peace, would afford all necessary guarantees for the re-establishment of order in Cuba. The President, in response, said he shared the hope the envoys had expressed that peace might be preserved in a manner to terminate the chronic condition of disturbance in Cuba so injurious and menacing to our interests and tranquillity, as well as shocking to our sentiments of humanity, and while appreciating the disinterested character of their communication, he expressed the confidence of this Government, that equal appreciation would be shown for its own earnest and unselfish endeavors to fulfil a duty to humanity by ending a situation the prolongation of which had become insufferable.

The Queen-Regent directed that Gen. Blanco should be authorized to grant a suspension of hostilities, the form and duration being left to his discretion, to enable the insurgents to submit and confer as to the measure of autonomy to be granted to them. This was a very different thing from assent to the President's demand for an armistice from April to October, with an assurance that negotiations for independence should be opened with the insurgents. No real armistice being offered, there was nothing for the Cubans to decline. This evasive outcome of the labors of the President for two months caused him to abandon all hope of an adequate settlement by negotiation, and to send in his message of April 11, in which he reviewed the negotiations at length and ended by leaving the issue with Congress.

On April 13 a resolution was passed by the House authorizing the President to intervene to pacify Cuba. On April 16 the Senate amended the House resolution by striking out all except the number, and substituting a resolution recognizing Cuba's independence. April 19 these two resolutions were combined in a joint resolution, which was adopted by both houses after a bitter struggle. This resolution was approved by the executive the next day. Spain assumed to treat the joint resolution of April 20 as a declaration of war, and sent Gen. Woodford his passports about seven o'clock on the morning of the 21st, before he could communicate the demands of the resolution. In the United States it was assumed that by dismissing Gen. Woodford Spain initiated actual war, wherefore Congress, by an act approved April 25, declared "that war exists, and that war has existed since the 21st day of April, A. D. 1898, including said day, between the United States of America and the Kingdom of Spain." In like manner the Spanish decree of April 23 simply recites in Article I "the state of war existing between Spain and the United States," without assigning a date for its beginning. The President's proclamation of April 26 coincided with the Spanish decree of April 23 in adopting for the war the maritime rules of the Declaration of Paris.

By the end of the month the troops called for under the act of April 23, authorizing the President to call for 125,000 volunteers, had begun to concentrate at Tampa, Fla. On April 30 Congress authorized a bond issue of \$200,000,000, and a circular was issued the same day inviting subscriptions. The total of subscriptions of \$500 and less was \$100,444,560, and the total in greater amounts than \$500, including certain proposals guaranteeing the loan, amounted in the aggregate to more than \$1,400,000,000.

Orders for a blockade of Cuba were issued on April 21, and the blockade was established and proclaimed the next day. In his proclamation of April 26 the President set forth at length the principles that would govern the conduct of the Government with regard to the rights of neutrals and the other points of naval warfare. The nation had scarcely realized the existence of war when it received news of Dewey's magnificent victory at Manila. This event fired the national heart with enthusiasm, and added immensely to the prestige of our navy abroad. On May 4 Admiral Sampson's squadron sailed from Key West; and on the 12th it engaged the forts at San Juan de Porto Rico. This was but a reconnaissance to discover whether the fleet under Admiral Cervera was in port; for the object of the navy was to destroy the Spanish fleet that had left the Cape Verde Islands on April 29. On May 19 Commodore Schley's flying squadron sailed from Key West

for Cienfuegos. On the same day the Navy Department was informed of Cervera's presence at Santiago, and this information was transmitted to Commodore Schley at Cienfuegos through Admiral Sampson. Commodore Schley then proceeded to Santiago. Sampson joined Schley on June 1, and assumed command of the entire fleet. On June 10 600 marines were landed near the harbor of Guantanamo, where they successfully repelled repeated attacks by the Spaniards. On June 14 Gen. Shafter, with 16,000 men, embarked for Cuba, under escort of 11 war-ships. The troops arrived off Guantanamo Bay on the 20th, and began landing on the 22d at Daiquiri, 17 miles east of Santiago, the entire army being debarked by the 23d with only 2 casualties. The forward movement was begun at once; after a sharp action near La Quasima on the 24th, in which the Americans under Gen. Wheeler lost 16 killed and 52 wounded, on July 1 the heights of El Caney and San Juan near Santiago were stormed. In the two days' fighting at this point the loss of the United States troops was 230 killed, 1,284 wounded, and 79 missing. On the morning of July 3 Cervera, after peremptory orders from Gen. Blanco, took his fleet to sea from its sheltered position in the harbor. The blockading vessels closed in upon the Spanish ships immediately upon their appearance, following them closely as they turned in flight to the west, and by evening had sunk or disabled every one of them, losing but 1 man killed and 10 wounded, while the enemy lost about 350 killed and 1,670 prisoners.

After a demand for unconditional surrender of Santiago, which was refused, and a truce of several days, on the 10th and 11th firing was resumed from the trenches and the ships, and by evening of the latter day all the Spanish artillery had been silenced. Terms were settled on the 17th, when the United States troops took possession of the city. On the 21st Gen. Miles sailed with an expedition to Porto Rico, where he landed on the 25th. His progress through the island met with little resistance, the inhabitants turning out to welcome the invading troops as deliverers. In less than three weeks the forces of the United States rendered untenable every Spanish position outside of San Juan; the Spaniards were defeated in six engagements, with a loss to the invaders of only 3 killed and 40 wounded, about one-tenth of the Spanish loss.

On July 26 Jules Cambon, the French ambassador at Washington, was requested to inquire if peace negotiations might be opened. President McKinley replied on the 30th, stating the preliminary conditions that the United States would insist upon as a basis of negotiations. A protocol of agreement was signed on Aug. 12 by Secretary Day and Ambassador Cambon, in which the stipulations were embodied in six articles, fixing, besides, a term of evacuation for the West Indian islands, and naming Oct. 1 following as the date of meeting of commissioners to settle the terms of peace.

It now became necessary to withdraw as many of the United States troops as possible from the unhealthful situation in Cuba. A camp was hastily provided near Montauk Point, Long Island, and hither the troops were hurried from Cuba. Suffering could not be avoided, of course, and there was a cry that the troops were not receiving the careful attention they deserved. President McKinley made a personal visit to Montauk in August to satisfy himself as to the actual state of affairs. In September he appointed a commission to investigate the charges of criminal neglect of the soldiers in camp, field, hospital, and

transport, and to examine the administration of the War Department in all its branches. The commission met first on Sept. 27. Gen. Miles, in his testimony, described the beef furnished to the troops as "embalmed," and in reply on Jan. 12, 1899, Commissary-Gen. Eagan denied the charge, and made such a bitter personal attack upon Gen. Miles that the President ordered his trial by court-martial, with the result that he was found guilty of conduct unbecoming an officer and a gentleman, and sentenced to dismissal from the army. This was commuted by the President to suspension for six years. The commission made its report on Feb. 8, and on Feb. 9 a court of inquiry was appointed by the President to investigate the charges of Gen. Miles in relation to the beef supply. The court found that his allegations were not sustained.

On Aug. 26 President McKinley appointed William R. Day, Cushman K. Davis, William P. Frye, Whitelaw Reid, and George Gray as peace commissioners. John Bassett Moore was appointed secretary and counsel. The commissioners met the Spanish commissioners in Paris on Oct. 1. Negotiations continued until Dec. 10, when the treaty was signed. It provided for the relinquishment by Spain of all claims of sovereignty over and title to Cuba; the cession of all other Spanish West India islands, and of Guam in the Ladrone group; the cession of the Philippines to the United States, and the payment to Spain by the United States of \$20,000,000 within three months after the exchange of ratifications of the treaty; Spanish soldiers were to be repatriated at the expense of the United States. Other details settling property rights were also included. On Jan. 4, 1899, the President transmitted the treaty to the Senate, where it was referred to the Committee on Foreign Relations. In his annual message, Dec. 5, the President had contented himself largely with a simple narrative of events that led up to the war, suggesting his own theory as to its causes, and deferring all discussion of the future government of the new territories until after the ratification of the treaty of peace. He recommended also careful consideration of the provisions suggested by Secretary Alger and Mr. Hull, chairman of the House Committee on Military Affairs, for enlargement of the regular army. The President had an opportunity to impress his views upon the country less formally, but none the less effectively, in his speeches and addresses on his trip to the Omaha Exposition in October and his visit to the Atlanta Peace Jubilee in December, 1898. There was much opposition to the treaty in the Senate, but finally it was ratified.

The question of peace with Spain was now settled, but an outbreak in the Philippines opened a new problem. The President had appointed, in January, 1899, a commission of five, consisting of Admiral George Dewey, Gen. Elwell S. Otis, President J. G. Schurman, of Cornell, Prof. Dean C. Worcester, of the University of Michigan, and Col. Charles Denby, for many years United States minister to China, to study the general situation in the Philippines and to act in an advisory capacity. But when hostilities broke out, there was left to him but one thing to do: the insurrection must be put down. For this reason he gave Gen. Otis, in his policy of vigorous action, all the support possible.

Another difficulty arose in the condition of affairs in the Samoan Islands. After the death, in 1898, of Malietoa, King of Samoa, a struggle for the succession took place in the islands between the followers of Mataafa and those of young Malietoa. For ten years Germany, Great Britain,

and the United States had exercised joint control over the islands. This position of the three powers, coupled with the continuous fighting among the natives, seemed to promise a serious problem for the President, but by perfect coolness and uniform good judgment he brought the matter to a satisfactory issue. On the proposal of Germany, each of the three powers appointed one member of a commission to visit the islands and investigate the entire question, beginning with the return of Mataafa and the election of 1898. Bartlett Tripp was appointed by the United States, Baron Speck von Sternberg by Germany, and C. N. E. Eliot by Great Britain. The commission unanimously recommended the abolition of the kingship and radical changes in the administration of Samoa. The three powers, recognizing the inexpediency of continuing any tripartite government of the islands, agreed upon an arrangement by which England retired from Samoa in view of compensation made by Germany in other quarters, and both powers renounced in favor of the United States all their rights and claims to the islands east of 171°, including Tutuila, with the fine harbor of Pago-Pago.

The President's appointments for the delegation to represent the United States at the peace conference called by the Emperor of Russia in 1898, which assembled at The Hague in May, 1899, were favorably received. The delegation consisted of Andrew D. White, ambassador at Berlin; Stanford Newel, minister to Holland; Seth Low, president of Columbia University; Capt. Alfred T. Mahan, United States navy (retired); and Capt. William Crozier, United States army. Frederick W. Holls, of New York, was appointed secretary.

Of domestic events in the first half of 1899 one of the most important was the order of May 29 in which the President withdrew several places in the civil service of the Government from the operation of the system of appointment on the result of examinations conducted by the Civil Service Commission. The President found a strong supporter and defender in the Secretary of the Treasury, who contended that the order was a beneficial step for the reform of the civil service; that only those places had been exempted that experience had shown could be filled best without examination, and that the change had not been made in the slightest degree at the instance of the spoilsmen. The President and Mrs. McKinley spent the summers of 1897 and 1899 at a popular resort on Lake Champlain, and in August of the latter year the President made an eloquent address at the Catholic Summer School, Cliff Haven, N. Y., in the course of which, referring to the condition of affairs in the Philippine Islands, he said: "Rebellion may delay, but it can never defeat the American flag's blessed mission of liberty and humanity." Later, at the Ocean Grove Assembly, New Jersey, he remarked: "There has been doubt expressed in some quarters as to the purpose of the Government respecting the Philippines. I can see no harm in stating it in this presence. Peace first, then, with charity for all, the establishment of a government of law and order, protecting life and property and occupation for the well-being of the people, in which they will participate under the Stars and Stripes." The President's message in December, 1899, was cordially received and very generally commended throughout the country.

During 1900 the volume of currency per capita was the greatest in the history of the nation; the total money of the country on Sept. 1 was more than \$2,096,000,000. Industrial and agricultural conditions advanced in prosperity in every section

of the United States. Under these conditions the nation became a money-lending instead of a money-borrowing country.

The original Philippine commission, created by President Jacob G. Schurman, submitted its final report on Jan. 31, 1900. On Feb. 6, the President selected Judge William H. Taft to head a new commission, which was completed by March 16, and reached Manila on June 3. The laborious endeavors of the Taft commission began to bear fruit, and on Sept. 1, under its direction, civil government was inaugurated in the archipelago. A vital death-stroke was dealt to the insurgents by the capture of the rebel dictator, Aguinaldo, in March, 1901, by Gen. Funston and a small band of men, who achieved success through stratagem and disguise.

Early in the summer of 1900 the civilized world was startled by news that the foreign legations at Peking, China, were besieged by an angry horde of celestials. A secret society, commonly known as "Boxers," had determined upon the extermination of all foreigners in the Chinese Empire. The events which began with the destruction of the forts at Taku and ended with the capture of Peking by the allied forces of Europe and the United States in August are a matter of contemporary history, in the making of which President McKinley and the United States played a conspicuous part. The President's moral influence for justice and fairness to China in her difficulties, resulting from the rashness of her misguided rulers and people, was marked.

Among the more important measures which Mr. McKinley forwarded in 1900 and early in 1901 were the following: An established government for Porto Rico and the Philippines; the redemption of the pledge of the United States to Cuba for the inauguration of independent civil rule in the island; reorganization of the army of the United States; extension of the American merchant marine; construction of the Nicaragua Canal; and the signing of reciprocity treaties with various European powers.

At the Republican National Convention, held in Philadelphia in June, 1900, President McKinley was unanimously renominated for a second term, and Theodore Roosevelt, then Governor of New York, was likewise nominated unanimously for the vice-presidency. Their Democratic opponents were, respectively, William Jennings Bryan and Adlai E. Stevenson. At the election on Nov. 6 the Republican candidates were elected, having carried 28 States with 292 electoral votes. Their plurality of the popular vote was nearly 250,000 greater than in 1896. The members of the Cabinet were all reappointed, but in March, 1901, Mr. Griggs resigned, and was succeeded by Philander C. Knox, of Pennsylvania, as Attorney-General. On April 29, accompanied by Mrs. McKinley, his Cabinet, and other officials, the President left Washington on an excursion to the Pacific coast via New Orleans. On the day following, speaking at Memphis, Mr. McKinley said: "What a mighty, resistless power for good is a united nation of free men! It makes for peace and prestige, for progress and liberty. It conserves the rights of the people and strengthens the pillars of the Government, and is a fulfilment of that more perfect union for which our Revolutionary fathers strove, and for which the Constitution was made. No citizen of the republic rejoices more than I do at this happy state, and none will do more within his sphere to continue and strengthen it. Our past has gone into history. No brighter one adorns the annals of mankind. Our task is for the future. We leave the old century behind us,

holding on to its achievements and cherishing its memories, and turn with hope to the new, with its opportunities and obligations. These we must meet, men of the South, men of the North, with high purpose and resolution. Without internal troubles to distract us or jealousies to disturb our judgment, we will solve the problems which confront us untrammelled by the past, and wisely and courageously pursue a policy of right and justice in all things, making the future, under God, even more glorious than the past."

Early in the autumn of 1901 the President, accompanied by Mrs. McKinley and several members of his Cabinet, visited the Pan-American Exposition at Buffalo, N. Y. On Thursday, Sept. 5, he delivered an address embodying the ripest wisdom of his long and prosperous political career. It gathered the experience of his many years of service to the country, and announced in clear, strong language the policy that was to guide him in the future. The speech is not merely an expression of the personal views of the President; it is a sound statement of the actual problems involved in the new position that, under his own wise guidance, our country has assumed in the world. It is in a sense Mr. McKinley's legacy to his native land. On Friday afternoon, in the music-hall of the exposition, while receiving his fellow citizens, he was twice shot by an assassin, who was executed for the crime in the following month. The President lingered until early on Saturday morning, Sept. 14. Funeral services were held in Buffalo, and Thursday, Sept. 19, was by President Roosevelt appointed a day of mourning and prayer throughout the United States. On that day the body lay in state in the national Capitol, after which there was a public funeral. At the same time unprecedented honors were paid to the memory of Mr. McKinley in St. Paul's Cathedral and Westminster Abbey, London, and in other parts of the Old World. The dead President's body was temporarily laid to rest in Canton, Ohio, where his widow resides. Probably none of his predecessors during their terms of office enjoyed as great popularity as William McKinley, and it may be safely asserted that the death of no other President was so universally mourned among his countrymen. See *Speeches and Addresses of William McKinley*, compiled by Joseph P. Smith (New York, 1893); the *Life of Major McKinley*, by Robert P. Porter (Cleveland, 1896); and *Speeches and Addresses of William McKinley*, from 1897 to 1901 (New York, 1900).

MADAGASCAR, an island colony of France near the southeast coast of Africa, formerly a kingdom, proclaimed a French protectorate in 1885, and declared a French colony on Aug. 6, 1896. The colony is administered by a Governor-General, Major-Gen. Gallieni. The area of the island, with Diego Suarez, Nossi Bé, Sainte Marie de Madagascar, and the Îles Glorieuses, is estimated at 228,500 square miles. The total population according to a recent official estimate is 2,252,236, the natives being estimated at 2,250,000, besides whom there are 207 Africans, 589 Asiatics, 1,042 French, and 398 Mauritians and others. There were 760 French civil functionaries in 1900, and the troops in 1901 numbered 490 officers and 16,406 soldiers. The Hovas, a tribe of mixed Malay origin that formerly ruled the island, are estimated to number 1,000,000. Most of them are nominally Christian, the majority of them Protestants. Antananarivo, the capital, has about 260,000 inhabitants; Tamatave, the seaport on the east coast, and Majunga, on the west coast, about 6,000 each. Hindus and Chinese carry on the local trade in the towns and Arab trade on the

coasts. Slavery was abolished by proclamation in Imerina, the Hova province, and wherever French authority reaches, on Sept. 26, 1896. Of the troops 8,165 were Europeans and 8,241 natives of Madagascar. The chief judicial officers are French, with native judges in the lower courts. The Christians are estimated to number 450,000 Protestants and 50,000 Catholics. The missions carry on hospitals, orphanages, colleges, and about 1,800 elementary schools, with 170,000 pupils. The colonial French Government has instituted rural schools in which instruction is given in both French and Malagasy, and in provincial centers industrial and agricultural schools, with superior schools in which officials, teachers, lawyers, and physicians receive their training. The revenue for 1897 was 9,093,820 francs, and the expenditure 9,328,679 francs. For 1900 the local revenue was estimated at 11,972,000 francs, to which the French Government added a contribution of 1,800,000 francs to cover the estimated expenditures. The actual revenue in 1900 was 19,400,000 francs from all sources, and expenditure 17,100,000 francs, leaving a surplus of 2,300,000 francs to be added to the reserve fund. The revenue in 1901 was expected to reach 25,000,000 francs. For military expenditure in 1901 the sum of 29,147,100 francs is set down in the French budget, and the total expenditure of France in that year is put at 31,602,449 francs. The debt of the colony requires 2,625,000 francs a year for interest, including the new loan of 60,000,000 francs. The reserve fund in 1901 amounted to 5,000,000 francs. The local revenue has increased six and one-half times in five years. Madagascar is believed to be rich in minerals. Gold, copper, iron, galena, sulfur, graphite, and lignite have been found, and 300 claims have been filed, but the development of mines is slow because the law requires companies to be managed exclusively by Frenchmen. Concessions of land are granted to Frenchmen free and have been sold to foreigners. The forests abound in valuable woods, in caoutchouc, and other forest produce. The natives weave silk, cotton, and raffia fiber by hand, and are skilled in working metals. The value of imports in 1899 was 27,994,000 francs, against 21,641,000 francs in 1898; the value of exports was 8,046,000 francs, against 4,960,000 francs. The principal articles imported in 1898 were cloth for 8,513,000 francs; drinks for 2,702,000 francs, besides wine for 1,429,000 francs; flour, 423,000 francs; tobacco, 128,000 francs. The chief exports in 1898 were caoutchouc for 1,282,000 francs; cattle, 653,000 francs; hides, 637,000 francs; raffia, 561,000 francs; wax, 383,000 francs. The total general trade of Madagascar in 1900 was 51,000,000 francs, having nearly quadrupled in five years.

The port of Tamatave was visited during 1898 by 6,061 vessels, of 879,362 tons, 734,068 tons being French, 78,053 tons British, and 39,305 tons German. A railroad has been built from Tamatave to Ivondro, which is connected by a canal with Jaroka, whence the railroad will be carried to the capital. The lagoons along the east coast are being joined by canals. A telegraph-line, 180 miles in length, runs from Tamatave to the capital, and another from the capital to Majunga, connecting with a cable to Mozambique, giving communication with Europe. Antananarivo has telegraphic communication also with the chief towns of the interior. A road from Tamatave to the capital has been completed, forced labor having been employed in its construction according to the old custom of the country. Gen. Gallieni has promised to abolish the *corvée*, as well as slavery. A poll-tax was introduced in lieu of

the manual service formerly required by the Government. The change has been made gradually, and is not yet complete. The poll-tax has been increased, and to enable the natives to pay it they are given employment in Government workshops and private establishments at a franc a day. Hindu and Chinese coolies have been imported into Madagascar, the latter to work on the roads. Hindu merchants and Germans have acquired two-thirds of the trade on the west side of the island. In the south French traders and colonists are coming in and posts are being rapidly pushed forward. On the central plateau there is little to tempt European enterprise, while in the coast regions and the forests agriculture and commerce are making progress.

MAIL DELIVERY, RURAL FREE. As undertaken in the United States, this is the free delivery of mail at least once every week day to farmers, miners, and others living outside of cities, towns, and villages. It is not the "village delivery" recommended by Postmaster-General John Wanamaker in 1890, which was tried by him and discontinued after a trial of a little more than two years on a change in the national administration.

In 1885 John M. Stahl, who was then a regular writer for a dozen farm papers, began a persistent agitation for the free delivery of mail to farmers. Although the suggestion was generally received with ridicule, he succeeded, in three or four years, in having it rather widely discussed and in securing for it some friends. He introduced a resolution favoring it in the annual meeting of the Farmers' National Congress in 1891, which was adopted, and a similar resolution has been adopted by that organization at every annual meeting since. It is claimed for the Grange, however, that it was the first agricultural organization to advocate rural free delivery. However, the earliest support given to the suggestion was by city organizations and newspapers.

The movement for free rural delivery received a great impetus from the letter of Postmaster-General Wanamaker, transmitted to the Senate May 3, 1892, in response to a resolution calling on him for "all the information that may be on file in his office . . . relative to the question of extending the free-delivery system to rural communities or for substituting said system for that of the present star-route service, as the same may be found practicable." This letter, of 180 printed pages, contained extracts from editorials that had appeared in 472 periodicals in all parts of the country, advocating the free delivery of mail to farmers, and also a report on the results from the free delivery of mail in 48 villages, inaugurated by him under the authority of a resolution of Congress approved Oct. 10, 1890. These experiments showed, as stated by Postmaster-General Wanamaker, that "while an allowance for natural growth equal to the average annual increase in earnings has been made, the business of these experimental offices has further increased to an amount slightly over the additional outlay for free delivery." It was said by the advocates of free rural delivery that the experiments in free village delivery proved that the first-named would not add to the net expense of the Post-Office Department; for not only would free rural delivery make a large addition to the revenues of the department, but it would effect a large saving through the abolition of fourth-class post-offices and star routes. These views were presented with great energy and persistence, Mr. Stahl, who continued to lead the agitation, speaking before Chautauqua assemblies, the National Grange,

farmers' institutes, press associations, etc., and having articles published in more than three-fourths of the periodicals of the country, from the local paper using "patent insides" to the metropolitan dailies and the *North American Review*. He secured the approval of the then powerful League of American Wheelmen and the support of its official organ. Champions of free rural delivery became active in Congress, and \$10,000 were appropriated for the fiscal year 1894, \$20,000 for the fiscal year 1895, \$30,000 for the fiscal year 1896, and \$40,000 for the fiscal year 1897, for experimental work. Postmaster-General Bissell refused to make the experiments. He was succeeded by Postmaster-General Wilson, who established the first free rural-delivery route, from Charlestown, W. Va., Oct. 1, 1896. In October, 1896, 15 routes were established; 15 were established in the following month, and by May 1, 1897, the number was increased to 44. These routes were in 26 States and Territories, from Maine and Massachusetts to Louisiana and Arizona, and from Georgia to Minnesota and Washington. The results were so satisfactory that Congress made the appropriation for this work for the fiscal year 1898, \$50,000, and in 1898 the number of routes was increased to 128. The appropriation for the fiscal year 1899 was \$150,000; for 1900, \$450,000; for 1901, \$1,750,000; and for 1902, \$3,500,000. On July 1, 1899, 391 routes had been established; Nov. 1, 1899, 634 routes, serving 452,735 persons; June 30, 1900, 1,214 routes, serving 879,127 persons; Nov. 15, 1900, 2,614 routes, serving 1,801,534 persons; July 1, 1901, 4,298 routes, serving more than 2,500,000 persons; and on Dec. 1, 1901, 6,009 routes, serving about 4,000,000 persons. In his annual report, dated Nov. 25, 1901, Postmaster-General Smith said that by July 1, 1902, the number of routes will be increased to 8,000, serving 5,700,000 persons.

The first step to be taken by a community to obtain free rural delivery is to prepare and sign a petition addressed to the First Assistant Postmaster-General. The Post-Office Department recommends that the petition read as follows:

*To the First Assistant Postmaster-General,
Washington, D. C.:*

The undersigned, heads of families, residing in . . . county, State of . . . , respectfully ask that the Rural Free Delivery Service be extended to them, the delivery to start from . . . post-office, . . . county, . . . State, or such other point as the officers of the department may deem best adapted to the service. A map or rough sketch of the proposed route is herewith enclosed. Your petitioners are mostly (*here state vocations, such as farmers, truck-gardeners, dairymen, cattle-raisers, or whatever the chief occupation of the people may be*). The roads over the proposed route are (*state whether pike, graveled, or otherwise*). There are no unbridged creeks, and the roads are passable at all seasons of the year.

Opposite each signature should appear the number in family more than sixteen years of age, and the distance in miles from the nearest post-office. When properly signed, the petition must be sent to the Congressman in whose district the petitioners are located, or to one of the Senators from the State. If he recommends the petition and forwards it to the Post-Office Department, a special agent is sent to the locality, to map out a route, and to select a rural carrier and substitute, to be appointed by the department. In this work the advice of the Congressman from that district is sought.

No route will be established where the roads

are bad, or, under ordinary circumstances, that is less than 20 to 25 miles long, or that serves fewer than 100 families. The route is so arranged that the carrier will not be required to travel over the same ground twice on the same day. Those served must put up, at their own expense, boxes conforming to the requirements of the department. The carrier deposits mail in the boxes and takes mail from them, except registered mail, which must be delivered to the addressee. The carriers are required to take with them on their trips, for the accommodation of their patrons, a sufficient supply of stamps, stamped envelopes, and postal cards. If the carrier finds an unstamped letter in a mail-box, and with it money sufficient to pay the postage, he is instructed to affix the necessary stamps. Carriers are empowered to register letters and packages and to deliver the same, giving and taking receipts on forms provided. They are also authorized to accept money for money-orders, giving their receipt therefor; and, if the patrons of the delivery desire to make the carrier their agent for the purpose, the carrier may enclose the orders, when issued, in addressed envelopes confided to his charge, and mail them without returning the orders to the senders.

"The establishment of free rural delivery at any post-office does not change in any particular the rate of postage on any class of mail-matter received at or delivered from that office, except that the one-cent rate on drop letters does not apply when such letters are collected or delivered by rural carriers. Drop letters so collected or delivered must be prepaid at the rate of two cents for each ounce or fraction thereof."

Rural carriers were paid at first only \$150 a year, then \$300; in 1898 this was raised to \$400, and they now receive \$500 for an ordinary route, and for special short routes \$100 a year for each 5 miles traveled. They are bonded for \$500, and each carrier has a substitute bonded for the same amount, that the mails may never lack a responsible carrier. Good character and temperate habits are required. The civil service regulations never have been applied to this service. Women are eligible, and some have been appointed and have served acceptably.

The extension of rural free mail delivery is largely owing to the enthusiastic support of Postmaster-General Smith. It was he that developed the idea of extending the service over an entire county, suspending all other service, that the best evidence might be obtained on these points: 1. To what extent can free rural delivery supersede fourth-class post-offices and star routes? 2. What will be the effect on the postal revenues? 3. What the net cost to the Government, compared with the old system. Carroll County, Maryland, was selected as presenting average rural conditions, with the third-class post-office of Westminster as the distributing point. On Dec. 20, 1899, 163 minor post-offices and 35 services by star-route contractors and mail messengers were discontinued, and rural free delivery was substituted in their place. The Westminster service began with 4 2-horse postal wagons, each equipped with all the appliances of a traveling post-office, and each accompanied by a postal clerk empowered to issue money-orders, register letters, and deliver letters, and cancel stamps on letters collected. These wagons supplied mail at designated points to 20 rural carriers, for whom cross-routes were laid out, to bring all the territory embodied in the order within easy reach of the mails. During the first three months the cost of the service was \$4,543; the saving from service superseded was

\$2,805; the increase of postal receipts directly resulting from the increased accommodation was \$1,501.75, making the net cost of carrying the postal service practically to, or near to, the homes of all the people in this county for one-quarter of a year only \$263. Dec. 1, 1901, 10 complete county services had been established.

At suitable places on each rural free delivery route, chiefly at cross-roads, schoolhouses, and places of general resort, the placing of United States collection mail-boxes of the regulation pattern used in cities has been authorized.

While at first there was some opposition to free rural delivery, it has now practically vanished. Dec. 1, 1900, there were on file in the Post-Office Department 2,159 applications for routes not established. Dec. 1, 1901, the number of these applications was 6,129, or more than the number of routes established. Postmaster-General Smith says: "It has been made plain that this service is a potent educational force; that it brings agricultural life into far closer relations with the active business world; that it keeps the farmer in daily touch with markets and prices; that it advances general intelligence through the increased circulation of legitimate journals and periodicals, stimulates correspondence, quickens all interchanges, promotes good roads, enhances farm values, makes farm life less isolated and more attractive, and unites with other wholesome influences in checking and changing the hitherto prevailing current from country to city." Free rural delivery was commended by President McKinley in his last annual message.

In his last annual report the Secretary of Agriculture discloses a new function for free rural delivery. He says that particular attention has been given to the distribution of weather forecasts by the free rural delivery. There are now in operation 365 centers, supplying an aggregate of nearly 42,000 families in the farming districts with the latest weather predictions. He said that, with some additional appropriation, it is the intention to reach several hundred thousand farmhouses with the daily forecasts and warnings of the Weather Bureau during 1902. He points out that the value of frost and cold-wave warnings to rural communities is beyond estimate, and that the free rural delivery of the Post-Office Department places the means at command to reach those who will be the most benefited by these warnings.

In Great Britain there is substantially a house-to-house rural delivery, only the most inaccessible domiciles being left unvisited. The rural carriers generally travel on foot and walk from 15 to 18 miles a day. Their average pay is \$4.50 a week. The Government allows each \$5 a year for shoes, furnishes him with medical attendance when sick, and allows him to retire on a small pension after ten years of faithful service. Practically all France is covered by rural delivery, the service extending into every commune. Rural carriers travel on foot, are paid not quite 2½ cents a mile, and are required to cover their routes every day in the year. The length of a route is 10 to 15 miles. They have an allowance for clothing, and may retire on a pension after fifteen years of service. Germany has rural delivery, but the service is not exactly free. Extra postage is charged, part of which goes to the carrier and part to the Government. In addition, the carrier is paid about \$240 a year. In Austria-Hungary the rural carrier is hired by the local postmaster. He collects a fee of half a cent on all letters, and of an eighth of a cent on all newspapers delivered by him. He travels about 10 miles a day, always

on foot, and his average pay is \$120 a year. In Belgium the rural carrier makes a daily round trip of 15 or 16 miles on foot. His salary varies with the supposed cost of living in the district he serves. It never exceeds \$250 a year. He is denied the right to vote, and is prohibited from taking part in politics.

MAINE. (See under UNITED STATES.)

MARYLAND. (See under UNITED STATES.)

MASSACHUSETTS. (See under UNITED STATES.)

MEDICINE, RECENT ADVANCES IN.

Malaria and Mosquitoes.—It has been proved that the puncture of a certain species of mosquito, the *Anopheles*, is capable of causing malaria, and it is now believed by many students that this is the only way in which malaria can be contracted. In practical importance the discovery ranks next to Lister's antiseptics, and it will be one of the historical achievements of nineteenth-century medicine. The history of the gradual unraveling of the complicated scheme in which the malaria germ, man, and the mosquito are used for the continuance and spread of the disease is, as Dr. Manson has happily put it, one of the true fairy-tales of science. In order to follow the theory, it is simply necessary to remember that healthy human blood consists of a fluid portion, the blood plasma or liquor sanguinis, and a solid portion made up of two forms of cells, or corpuscles as they are usually called. The red corpuscles are round, disk-shaped, reddish bodies containing the hemoglobin, which gives the blood its color and its efficiency as a sort of vital dumb-waiter for the tissues. The white corpuscles or leucocytes are larger than the red ones, and are spherical.

The complete life cycle of the malaria germ, which is not a bacterium but an animal, belonging to the lowest group of the animal kingdom, the protozoa, forms a closed circle through man and the mosquito, so its life history may be taken up at whatever point is most convenient. Let us assume, then, that we have a man with a well-marked case of malaria—chills, fever, chills, fever, *ad infinitum*. If we examine this man's blood we shall find in a number of the red corpuscles a small, pigmented, jelly-like mass. This is the malaria germ. It grows by eating the substance of the corpuscle, just as a mouse would eat the inside of a cheese. Each germ finally develops into a little patch of protoplasmic mosaic, by dividing its body into minute pieces called spores, and then breaks up, and the pieces wander off in the blood stream. Some of them attack other corpuscles and set themselves up as new mother-germs, which in their turn grow and produce infant *hæmamebidæ* (this is the scientific name of the malaria parasite), and others are eaten by the phagocytes, the scavengers and police of the blood.

But always some of the original germs, although they grow as do the others, by eating the substance of the corpuscles in which they lie, never separate into spores, but remain as simple large homogeneous masses. A hungry mosquito comes along and takes a drink of the man's blood. The result is that she extracts, along with the blood, some of these germs which have not divided, and which have no function as long as they remain in the human body. But as soon as they enter the mosquito's stomach they become active, and undergo a series of changes and combinations quite different from those that occurred in their brothers in the man's body. This finally leads to the production of great numbers of small needle- or spindle-like organisms in the stomach wall of the mosquito. And now comes perhaps

the most remarkable part of the whole scheme. These little germ rods, as they are called, disappear as soon as they are hatched from the sides of the mosquito, and are next found embedded in various nooks and corners in and about the mosquito's proboscis. And when the next time it punctures her next victim some of the needle-like rods escape into his blood. Here they undergo another transformation, and soon afterwards develop into the typical malaria parasite with which we started.

So far as is now known, the only way in which a mosquito can obtain malaria germs is by sucking blood from a malarial sufferer. And the only way a man can contract malaria is through the injection of the germ into his blood by the mosquito. That is to say, not only are both man and the mosquito necessary for the production of malaria, but they must be brought together. The life cycle of the germ is, Man A to mosquito A; mosquito A to man B; man B to mosquito B; mosquito B to man C, and so on.

To trace out and prove this complicated scheme, to locate the germ and convict the carrier of it, has required about twenty-five years of constant work by numerous investigators. The malaria parasite itself was undoubtedly seen more than seventy years ago by Meckel, who in 1830 described certain black particles he had seen in white blood-corpuscles, and also in other amebalike bodies that were not apparently normal constituents of the blood. He had no idea, however, what these bodies were, except that he recognized the pigment as of malarial origin. Some years later his observations were repeated by Frerichs and Virchow, who also failed to recognize the true significance of their discovery.

Early in the autumn of 1880 Laveran, a French army surgeon stationed in Algiers, again came across these pigmented bodies in the blood of a malaria patient which he was examining. He naturally wondered what they were, and whether they had any connection with the malaria from which he knew the man to be suffering, and he determined to study them. He was soon led to suspect that they were living organisms (he saw them move and even grow), and finally was able to prove to his own satisfaction that they were the real parasites that caused malaria. He announced his discovery to the French Academy on Nov. 23, 1880: "J'eus à ce moment même l'intuition que j'étais en présence de véritables microbes du paludisme, et tous les faits que j'ai observés depuis lors n'ont fait que confirmer cette impression première." He observed and described some of the curious changes that the parasite undergoes as it eats out the inside of the red blood-cell in which it lies. He saw the rosette and flagellated bodies, as well as the strange crescents, which we now know play so important a part in the transference of one form of the disease. He saw a medley of things, but they were so strange and apparently unrelated that he was not able to put the various appearances together and prove the unity of the different forms. As Dr. Manson has said: "He had plunged into what was then almost a new zoological kingdom, and it was little wonder that he did not recognize the relationship to each other of the different items, so to speak, that composed the strange fauna. It was as if some intelligent being from the planet Mars, unacquainted with our fauna, had dropped into this world and had come across some such zoological collection as the inhabitants of a fowl-run. He would see fowls, and feathers, and eggs, and empty egg-shells, etc. But he would not be able for a long time to recog-

nize the connection between the egg-shell and the chicken, or between the feathers and the fowl."

One of the striking features of the new germ, and probably the one that led Laveran to his identification of it, was the presence of a peculiar dark-brown pigment, which was known to be a characteristic deposit in certain organs, notably the spleen, of malaria patients, which, as we shall see, the germ always begins to manufacture industriously as soon as it gets into a red blood-cell. In fact, this pigment appears to have been the clue without which the problem would have been almost unsolvable.

Laveran's discovery, for a time considered very doubtful by other pathologists, was gradually confirmed during the next few years, and it marks the first great step in the etiology of the disease. Among other things, it explained the great efficacy of quinine, until then given empirically. Quinine is a deadly poison to certain microbes—among others, to the malaria parasite.

Nine years after Laveran's discovery, Golgi, of Pavia, succeeded in piecing together the different forms that Laveran had described, and worked out the complete phase of the parasite in human blood.

There are several varieties of malaria, and in each of them the germ has a different life cycle; but in general plan they are all much alike, al-

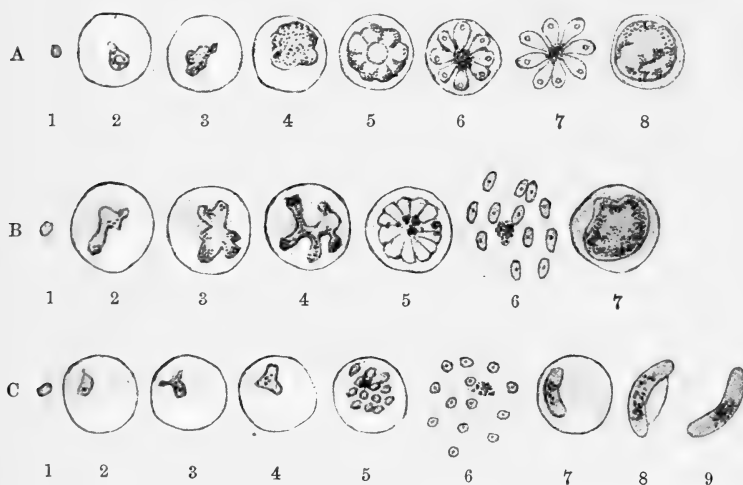
rosette, the red blood-corpuscle, which up to this time has held the parasite together, so to speak, breaks up, and the rosette is liberated into the liquor sanguinis. Here in its turn it goes to pieces, and these little spore-cells float away in the blood stream. The phagocytes immediately eat up the black pigment and many of the spores. A few of the latter escape, however, and succeed in working their way into fresh red blood-cells, where they appear at first as pale specks. If these are watched, they are seen to grow rapidly, until they nearly fill the blood-cell, developing in the meantime their characteristic pigment granules, which finally concentrate at the center as before; the protoplasm separates into spores, and a new rosette body is formed, which eventually breaks up and liberates its spores as did the original parasite. This process is repeated over and over again, each time more of the red blood-cells being destroyed. It has been calculated that about 250,000,000 parasites are necessary to cause a well-marked attack of malaria. When a man has once become infected with the germ the latter, although individually very short-lived, is enabled by this process to continue and increase the infection, unless the blood is disinfected with quinine or the phagocytes get the better of the spores and eat them all up before they have a chance to seek safety in the red blood-cells.

This series of changes has nothing whatever to do with the spread of the disease, and simply serves to continue it in the individual after the parasite has entered his blood.

Golgi worked out these stages for the tertian and quartan forms of the disease; and two other Italians — Marchiafava and Bignami—did the same for the so-called æstivo-autumnal form, which is the most dangerous of the three, and which, because it is commonest in the tropics, is called by Koch "tropical malaria."

The detailed study of these life histories made it possible for the physician, by examining a drop of blood from a patient's finger, to discover immediately not only whether the disease was malaria, but which of the types it would follow. This was a wonderful advance,

and a great achievement for science, but it was only half of the story. It still remained to discover where the germ came from, and how it got into the human body. The old notion had been that malaria was due to bad air, as its name implies. Then some agent in the water or the soil of malarious districts was suspected. Careful search, however, failed to discover the germ anywhere outside of the human body. It could not be found in swamp water, nor in the air over marshy regions, nor in those unhealthy-looking green scums which have such a bad reputation, but which really are quite harmless. There was the germ, however, and as spontaneous generation



GROWTH OF THE MALARIA PARASITE IN THE HUMAN BODY.

A, the quartan parasite; B, the tertian parasite; C, the æstivo-autumnal parasite. No. 1 in each series is the spore. Beginning with No. 2 the red blood-cell is shown, with parasite inside. No. 6 A is the rosette body. Nos. 8 A, 7 B, and 7, 8, and 9 C are the forms which serve to continue the disease when drawn into the stomach of the mosquito, but which have no function as long as they remain in the human body. Nos. 1 to 6 in each group show the complete cycle of the germ in the human body, from spore to spore. (After Ross.)

though the stages differ somewhat in appearance in the several varieties, as shown above. In the quartan form the mature germ is a mass of pale protoplasm which lies inside the red blood-corpuscle, and practically fills it. Scattered through it are the small characteristic pigment masses. Very soon after the parasite has reached maturity these pigment granules concentrate at some point, usually at the center, while the protoplasm separates into little elongated cells, which frequently radiate from the central pigment mass, and give the microbe the appearance of a rosette; hence at this period it is called the rosette, or *rosette* body. Shortly after the formation of the

had long been ruled out, as simply a biological excuse for ignorance, it was evident that it must originate somewhere. It could not be found in the secretions of the breath, or on the skin of the malaria patient, and the only way in which it was possible to transfer it from person to person was by the direct transference of the infected blood; and this, obviously, was extremely rare as a natural occurrence.



ANOPHELES.

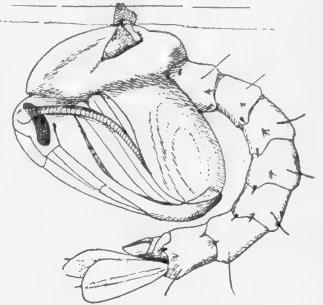
Eggs, greatly enlarged.

But there was the evidence all about them; hundreds of people in the tropics were coming down with the disease every day. They hunted, and speculated, and experimented, and got no further, until in 1894 Manson, whose curiosity had been aroused by the apparent *impasse*, and who was studying the germ, noticed that the flagellated bodies, the curious devil-fish form observed by Laveran, were never found in newly drawn

ing the theory. There has also lately turned up a letter giving a similar view, published in 1884 in the *Muktataf*, an Arabic review of Cairo, Egypt. But none of them had been in a position to have the theory thoroughly tested, as was Dr. Manson.

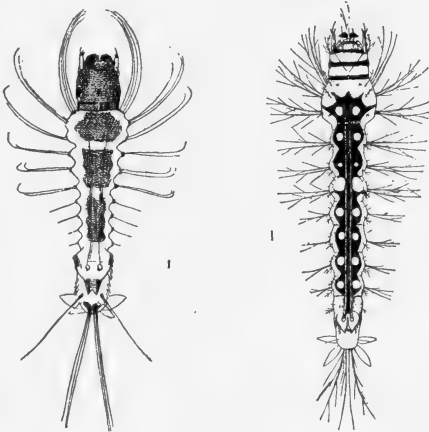
Dr. Manson had observed, some years before, that another parasite of human blood, a microscopic worm called *filaria*, was drawn with the blood into the stomach of a kind of mosquito, and found in that insect a congenial host, in which it soon passed into another stage of its development, and became an entirely different microbe, so far as appearance was concerned. These metamorphoses are quite common among the lower forms of life, some of them passing through three, four, and even five separate stages, in each of which, unless they are actually seen to make the change, they would seem to the observer to be entirely different creatures. Dr. Manson soon became convinced that a similar series of events occurred in the development of the malaria germ, and he fastened on the mosquito as the intermediate host. This was as yet simply theory, however.

Major Ronald Ross, of the Indian medical service, during a visit to England, became deeply impressed with Manson's arguments, and determined to test the theory on returning to India. He was at this time stationed at Secunderabad, and here he began work in April, 1895. He collected mos-



ANOPHELES.

Pupa.



ANOPHELES.

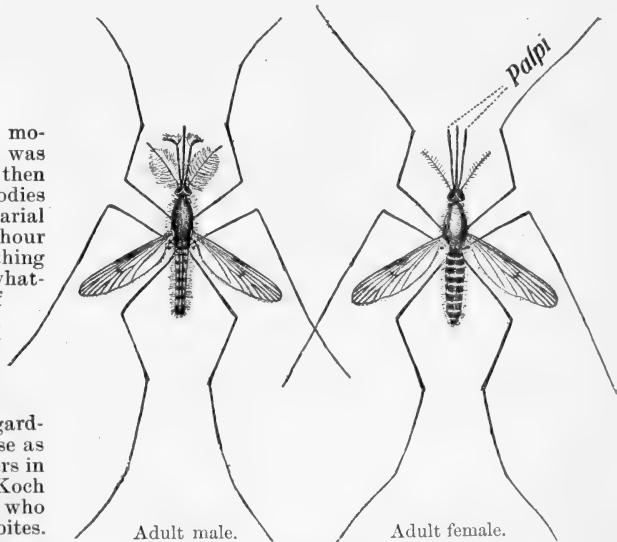
Newly hatched and half-grown larva.

blood, only making their appearance some moments after it was shed—that is, if the blood was killed immediately after it was drawn, and then examined microscopically, none of these bodies ever appeared, whereas if newly shed malarial blood were allowed to stand a quarter of an hour they could always be found. Here was something of obvious importance, it being plain that whatever function these bodies had, it lay outside of the human body. It soon occurred to Manson that their function might be that of spores for spreading the parasite in the external world, and it seemed to him that some suetorial insect was very probably the agent for their diffusion. There had been all sorts of theories regarding the causation of such a wide-spread disease as malaria, and among the theorizers were believers in the mosquito as one of the agencies. Dr. Koch found certain tribes in German East Africa who thought the disease entirely due to mosquito bites. And nearly twenty years ago Dr. A. F. A. King announced his belief in the mosquito theory, as did also Dr. Laveran himself in 1884. Indeed, Dr. King, in a paper read before the Philosophical Society of Washington in 1882, refers to an article by a Dr. Josiah Nott, published in 1848, uphold-

ing the theory. There has also lately turned up a letter giving a similar view, published in 1884 in the *Muktataf*, an Arabic review of Cairo, Egypt. But none of them had been in a position to have the theory thoroughly tested, as was Dr. Manson.

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Adult male.

Adult female.

ANOPHELES.

quito larvæ (the mosquito undergoes a series of transformations, similar to those above described, which are shown here) and bred them in

bottles. He caused the mosquitoes thus reared to bite persons affected with malaria, and then dissected the mosquitoes for evidence of the development of the parasite within them. The first result of these experiments apparently disproved the theory, for he failed to obtain a mosquito whose bite would cause the disease. Not only this, but he traced the malaria germ into the mosquito's stomach, and found that it died there. He so thoroughly believed in the guilt of the mosquito, however, that he persevered, varying his experiments in all sorts of ways, and dissecting, in two years, more than 1,000 mosquitoes. Up to this time he had employed only two kinds of mosquito, but one day in August, 1897, a native brought him a bottle of larvae from an unknown source, and when he raised these he found that they produced a new kind of mosquito. He induced the new mosquitoes to bite a malaria patient; and in two of them, when they were dissected, round bodies, possessing the typical malaria pigment, were found in the walls of the stomach, and here at last was the long-sought extra-corporeal phase of the parasite. He watched these bodies, and found that they grew very rapidly, increasing from ten to twelve times in diameter.

At about this time Dr. W. G. MacCullum, of Johns Hopkins University, announced a discovery regarding the development of a somewhat similar protozoal parasite in the pigeon, the importance of which, in connection with the extra-corporeal phase of the malaria germ, Dr. Manson immediately perceived. Dr. MacCullum had found that the arms of the flagellated body of the pigeon parasite were not simply spores, as had been believed, but were really sexual bodies which required for their further development a female cell. Ross was in constant communication with Dr. Manson, and was soon informed of MacCullum's discovery. His work was now unavoidably interrupted, and when he was able to resume it, early in 1898, could not, owing to the plague scare

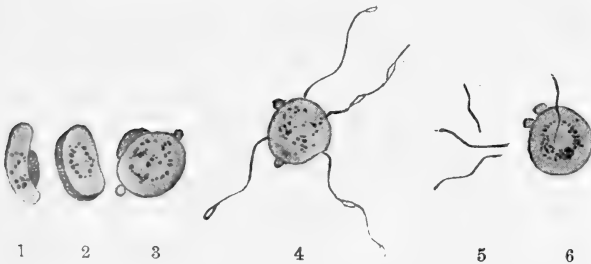
each wall pigmented bodies exactly similar to those which he had found in his rare species of mosquito, fed on the blood of a man with malaria. These pigmented bodies grew rapidly, and soon formed protrusions, like warts, on the walls of the stomach. When he dissected one of these mature warts he found it full of minute, rod-like bodies, which he called germinal rods. Soon after the warts had filled up with the germinal rods he saw them burst open and scatter the rods into the general body cavity of the mosquito outside of the stomach. For a considerable time, although he watched very closely, he got no further. But one day, in dissecting the head of a mosquito, he came upon the final link in the chain.

One could hardly suggest an investigation that would seem to be more barren of practical utility than the dissection of a mosquito, and yet in the hands of Dr. Ross it led to the final and complete solution of the malaria problem. He found, on dissecting the head, two glands, the ducts from which united and ran to the root of the proboscis. These proved to be the salivary glands, and in and around them he found great numbers of the germinal rods. If these same processes could be demonstrated in the mosquito for the human malaria germ, the mosquito cycle was proved and the etiology of the disease completed.

In a very short time this was done, not only by the Italian students Grassi, Celli, Bignami, and Bastianelli, but also by Dr. Koch, the German pathologist, and the case was completed from the laboratory point of view. It was found that Ross's failure to complete the cycle in man was due to his not having had, except in one instance, above referred to, the proper variety of mosquito to work with. This proved to be the *Anopheles*. The common gray or brindled mosquito which abounds in all mosquito-haunted localities belongs to a group known as *Culex*, which, fortunately, is not hospitable, for some unknown reason, to the malaria germ. That is, the latter will not grow in the stomach of the *Culex* into the spindle-like germinal rods that seem to be necessary for completing the cycle.

This cycle in the *Anopheles* mosquito, as worked out by the Italians for the tropical form of the disease, which is illustrated on pages 346, 347, is as follows: When malaria-infected blood enters the stomach of the mosquito the malaria parasites develop into two different bodies. One is a spherical protoplasmic mass, and the other the flagellated body. These originally were the crescent bodies. The long arms of the flagellated body soon break away from the central mass, and each one finally enters one of the spherical bodies and coils up in it. This combined form soon develops the ability to move about, and eventually forces its way into the substance of the

stomach wall. Here it becomes motionless and begins to grow rapidly, so that in a few days it protrudes from the stomach wall like a wart. At this time it is filled with thousands of the small spindle-like germinal rods. This wart-like excrescence soon ruptures, and discharges its contents of germinal rods into the body cavity outside of the stomach. The rods immediately disappear into the tissues of the mosquito, and are soon found in countless numbers in its salivary glands; and some of them gain entrance into every person the mosquito bites.



THE CHANGES THAT OCCUR IN THE ÆSTIVO-AUTUMNAL PARASITE AFTER IT HAS BEEN DRAWN INTO THE MOSQUITO'S STOMACH.

No. 4 is the flagellated body. No. 5 shows three of the flagella which have broken loose from 4, and one of which is seen entering the female gametocyte in 6. This combined form finally enters the stomach wall of the mosquito, and its growth produces the wart-like appearance shown on page 347. (After Ross.)

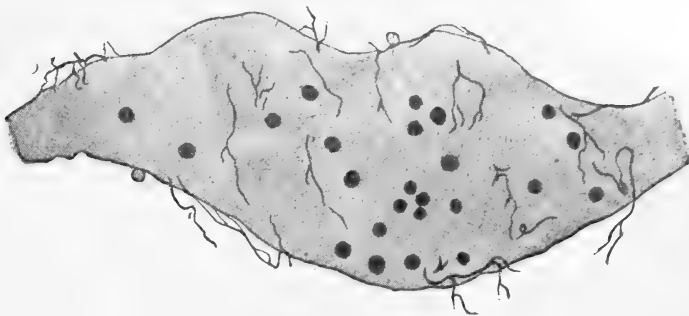
in Calcutta, where he was now stationed, secure satisfactory human experimental material. He was very anxious to go on with the work, and so turned his attention to a malaria-like parasite (proteosoma) which had been observed in certain birds. He collected some of the Calcutta sparrows, and found that many of them contained this germ, which lived in the red blood-corpuscles, just as the malaria germ lives in human blood. He pastured a herd of uninfected mosquitoes on some of these infected sparrows, and after a few days dissected the former. He found in the stom-

This was the final proof of the complete cycle through man and the mosquito. But there were still many skeptics, so some infected *Anopheles* were allowed to bite a man in Rome, and he soon developed the malaria parasite in his blood. Still the skeptics were not satisfied—the man might have been infected in some other way, or had a sort of latent infection in his blood all the time. So finally Dr. Manson, wishing to make the proof striking and positive, devised two crucial tests, which were carried out in the summer of 1900, and the results leave the fair-minded skeptic defenseless.

The first of these consisted in sending two physicians—Drs. Sambon and Low—to live in a very malarial district on the Roman Campagna (Ostia) during the most malarious season of the year, their only protection from the disease being mosquito-netting. No quinine or other prophylactic was taken, and they were directed to sleep with the windows and doors open so as to give any bad night air there might be “a chance at them.” This they did, living in a house whose only peculiarity lay in its being mosquito-proof. Here they stayed all summer, and while the whole surrounding population of natives was down with malaria, neither of the unacclimated experimenters ever showed a trace of it. This proved that unacclimated people could live in perfect health in an extremely malarious region, where even the acclimated natives are continual sufferers, by simply avoiding mosquito bites.

For the second experiment some laboratory mosquitoes were reared from the eggs in Rome, pastured on a malarial sufferer there, and then sent alive to London. Here they were permitted to bite a healthy man whose blood had been examined and shown to be free from the malaria germ. Dr. Manson's son volunteered for the service. He was bitten freely by the mosquitoes, and

Much still remains to be done. It is by no means proved that there is no other mode of propagating the disease than by mosquito bites, although it now seems probable that this is true. There is no certainty that other species of the mosquito besides *Anopheles* may not act as transmitters of the germ. The only thing we appear to be fairly certain of is that none of the *Culex*

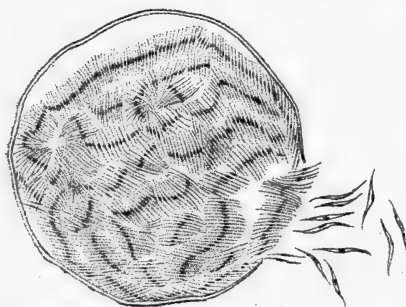


STOMACH OF ANOPHELES.

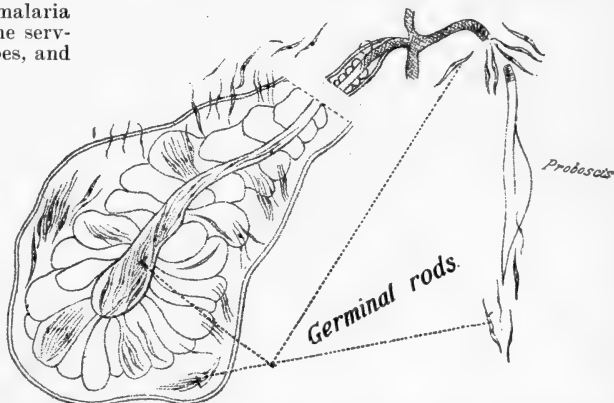
Each of the dark spots represent a malaria parasite which has grown until it forms a wart-like excrescence on the stomach wall. (After Ross.)

species do so. There are, however, about 240 known species of mosquito, and it is not at all improbable that some of these may be found to possess the same claim to distinction, and extinction, as the *Anopheles* tribe.

Then the discovery has opened a new field in the fight against malaria by practically changing it into a war of extermination against the mosquito. This is being actively carried on in several portions of Italy, and to some extent also in this country. The mosquito breeds chiefly in small bodies of surface water which contain no fish (fish eat up the eggs and larvæ), and hence especially those about new excavations. One of the prophylactic methods now urged is the filling



ONE OF THE WART-LIKE BODIES MUCH ENLARGED, WHICH HAS JUST RUPTURED, AND FROM WHICH THE GERMINAL RODS ARE SEEN ESCAPING (After Ross.)



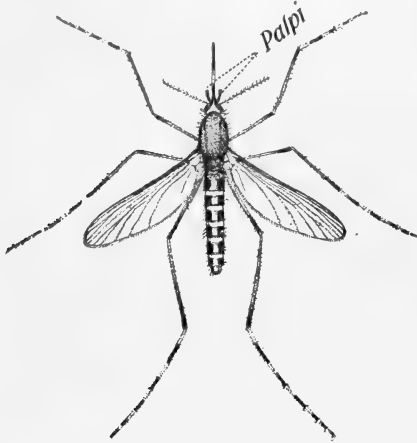
SALIVARY GLAND OF AN ANOPHELES, SHOWING THE GERMINAL RODS IN THE BODY OF THE GLAND, AND ALSO ESCAPING FROM THE PROBOSCIS OF THE MOSQUITO. (After Ross.)

in a short time he not only developed, in the heart of London, the clinical symptoms of malaria, but his blood was found to be swarming with the typical parasites.

These two experiments complete the story, and from the purely scientific point of view, as well as from that of the utilitarian, few achievements in modern medicine have equaled it.

up of all such small puddles, and the covering of the surface of the larger ones with kerosene oil, which prevents the larva from getting air, and hence smothers it. These two methods, with the careful use of mosquito-netting, are the means at present believed to be the best preventives of malaria. Persons finding it necessary to go into regions having a bad reputation for malaria

should be careful to avoid all mosquito bites, and especially those of the species *Anopheles* (page 345). These may be distinguished from the other common species, *Culex*, by the difference in their palpi, as is shown on this page. In *Culex* these are short and club-like; in *Anopheles* they are almost as long as the proboscis, and slender. The male mosquito does not bite human beings.



CULEX TENIORHYNCHUS (FEMALE) SHOWING THE SHORT PALPI THAT DISTINGUISH CULEX FROM ANOPHELES.

In New York city and the surrounding districts, Dr. William N. Berkeley says, the *Anopheles* may be readily distinguished by its spotted wings. The avoidance of *Anopheles* bites may be secured by keeping indoors at night, as this species appears to be largely nocturnal in its feeding habits. This, of course, implies that the house occupied has been made thoroughly mosquito-proof.

One of the results of the new theory promises to be the careful isolation from mosquitoes of malarial sufferers, as each mosquito biting a man with malaria immediately becomes a new source for the spread of the disease.

The mosquito, while not so prolific as the malaria parasite, is still rather a rapid breeder. Prof. L. O. Howard calculated that the 19,110 larvæ that he found in a rain barrel would, by the end of the summer, have produced a number of mosquitoes expressed by not less than 25 figures.

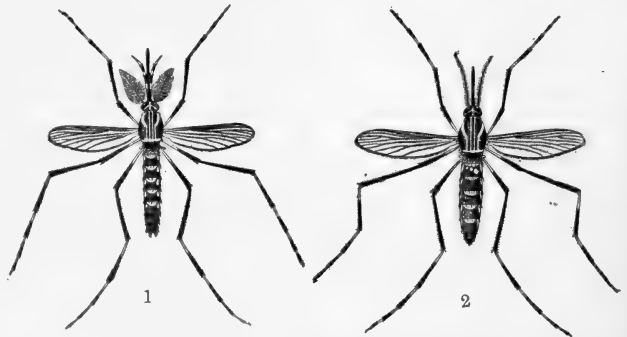
The economic importance of the final solution of the malaria problem will be appreciated when it is remembered that 5,000,000 persons die every year in India of fevers, a large number of which are malarial in origin, and that in certain portions of Africa and India the country is practically uninhabitable because of this disease.

Mosquitoes and Yellow Fever.

—According to Dr. Walter Reed, of the United States army, director of the recent Yellow Fever Commission in Cuba, the theory that some insect, and not a diffusible miasm, as was generally believed until recent years, is the active agent in the spread of yellow fever, was first advanced by Dr. J. C. Nott, of Mobile, Ala., in March, 1848. His views are given in full in the New Orleans Medical Journal for that year. In the same article Dr. Nott ex-

pressed his belief in the mosquito theory of malaria. The credit for the explicit statement of the theory of the propagation of yellow fever by mosquitoes belongs to Dr. Carlos J. Finlay, of Havana. He announced his theory in a paper read before the Royal Academy of that city on Aug. 14, 1881. Dr. Finlay's theory was not generally accepted at that time, and he seems not to have been in a position to test it adequately, although he has continued to work on the problem up to the present time. That the mosquito is capable of causing yellow fever has now been proved beyond a doubt by the experimental work of the commission that the United States Government sent to Cuba to study the disease in June, 1900. During the interval between Dr. Finlay's announcement of his theory and the final proof of the mosquito's guilt by Dr. Reed's work, the attention of investigators appears to have been directed chiefly to finding the actual yellow-fever germ itself. Sternberg and Sanarelli thought they had isolated the true yellow-fever germ in the so-called *Bacillus icteroides*. But the later researches of Dr. Reed and his colleagues have failed to confirm this, and at present, although there is no question that a certain species of mosquito, *Stegomyia fasciata* (formerly *Culex fasciatus*), can carry the infection of yellow fever from person to person, what this infection consists of has not been satisfactorily determined. The recent work of the Yellow Fever Commission in Cuba, while not so complete as that which led to the solution of the malaria problem, is of great economic as well as scientific importance. Dr. Hurlbeck, of the American Public Health Association, estimated that the epidemic of yellow fever of 1897 in Louisiana, Mississippi, and Alabama, which cost nearly 16,000 lives, involved a total loss to the country of not less than \$100,000,000.

As no yellow-fever germ has yet been isolated, it is not possible to construct a complete cycle, as was done in the case of malaria; but by actual experimental infection with infected mosquitoes of some brave volunteers from the United States army, who gave themselves freely for the dangerous work, the guilt of the mosquito has been positively proved. Camp Lazear, where the commission's experiments were carried on, was about a mile from Quemados, Cuba. Three sets of tests were carried out. First, the attempt was made to infect non-immune individuals by exposure to intimate contact with infected clothing and bed-



THE MOSQUITO THAT TRANSMITS YELLOW FEVER (*STEGOMYIA FASCIATA*).
1, male; 2, female.

ding, by what are technically known as fomites; second, by the direct injection of blood from cases of yellow fever; and third, by the bites of mosquitoes that had been pastured on yellow-fever

sufferers. The equipment of the camp included two frame buildings, one of which, known as the "infected-mosquito building," was divided near its middle by a permanent wire-screen partition, and had good ventilation. The other, known as the "infected-clothing building," was purposely so constructed as to exclude anything like efficient ventilation. Both houses were provided with wire-screen windows and double wire-screen doors, so that mosquitoes could be kept without or within the buildings.

The first mosquito infection was obtained on Dec. 8. One of the volunteers, Kissinger by name, had been bitten by five mosquitoes which had previously been allowed to bite a yellow-fever patient. On Dec. 8 he came down with a well-marked case of yellow fever. He had been under strict quarantine for fifteen days, so that the possibility of any other source of infection was removed. Within the period of one week from Dec. 9 to Dec. 15, 4 of the volunteers who had allowed themselves to be bitten by infected mosquitoes developed well-marked cases of yellow fever. And of the 14 non-immune individuals subjected to the bites of infected mosquitoes during the whole test, 10 contracted yellow fever, the attack always following the bites within the period of incubation of the disease. Of 5 individuals who received direct injections of blood from yellow-fever patients, 4 contracted the disease. On the other hand, 7 non-immune Americans who slept every night in the "infected-clothing building," poorly ventilated, and to which no sunlight ever came, engaged in the morning in packing boxes with garments much soiled by contact with the bodies and excreta of yellow-fever patients, and at night unpacking these same boxes in order to obtain articles for their beds, and clothing for their bodies. Sleeping in the very beds and garments just vacated by yellow-fever cases, these 7 men came out of this pest-house at the end of the experiment perfectly well, not one of them having contracted the disease. The "infected-mosquito building," divided into two compartments by a wire-screen partition, was next used as follows: Fifteen mosquitoes were freed on one side of the partition, and a non-immune man, Moran, was placed in the room. On the other side of the partition, protected from the mosquitoes, were 2 other non-immunes. Moran was bitten freely by the mosquitoes, and soon developed a sharp attack of yellow fever, while the 2 non-immunes on the other side of the screen remained perfectly well. The next experiment was on one of the non-immunes who had occupied the "infected-clothing building" for twenty-one nights, and had then been kept in strict quarantine thirty days longer. He visited the mosquito room, was freely bitten, and in three days and twenty-three and a half hours developed a well-marked case of yellow fever.

These experiments appear to leave no possible doubt regarding the ability of the mosquito to cause yellow fever, and also point strongly to the absence of any infection due to simple contact with yellow-fever patients or their excreta or clothing. If this be true, the elaborate system of quarantine now in vogue against the disease, and the severe disinfection practised with yellow-fever patients and their belongings, are quite unnecessary. Dr. A. H. Doty, health-officer of the port of New York, says: "Dr. Reed's experiments have not conclusively shown that there may not be some other means than the mosquito by which yellow fever is transmitted. But when the experiments are considered in connection with the results of our practical experience, it is clearly

evident that the disease is not contracted by personal contagion or through the medium of clothing, bedding, cargoes of vessels, etc. Therefore I believe we are justified in changing our quarantine regulations to conform to these views, and that such a proceeding is safe and reasonable, particularly as we now have at hand a method which if properly and scientifically carried out can be depended upon to limit the extension of yellow fever. If the future shows that there are other means of infection, it will then be time enough to add whatever restrictions are necessary for the protection of the public health. I am convinced in following this action we are not only offering full protection to the public, but are extending to commerce a relief from unnecessary and unreasonable regulations."

The identification of *Stegomyia fasciata*—the yellow-fever mosquito—is not difficult. Its most conspicuous markings are a broad semilunar silvery stripe, which is seen on the lateral surface of the thorax, and the white stripes at the bases of the tarsal joints. The four stripes of silvery scales that are seen on the posterior surface of the thorax serve to distinguish the species from all other mosquitoes except *Stegomyia signifer*, in which, according to Prof. L. O. Howard, the curved thoracic band is very narrow and of a somewhat different shape. When examined with a lens, the four stripes are seen to consist of two lateral distinct silver lines—the combination of the semilunar broad stripes—and two fine white lines between these. The insect must be held in the proper light, in order that these delicate threads may be distinctly seen. The lateral surface of the thorax is also marked by several silvery dots, and the abdomen by distinct white stripes. In the female the palpi are short, as in the genus *Culex*. The species is found all over Cuba, and has been reported from several European countries and from points in Central and South America. In the United States, according to Prof. Howard, it has been found at New Orleans, in eastern Texas, at Hot Springs, Ark., at Pelham, Ga., and near Norfolk, Va.

The methods recommended for the destruction of this mosquito, which breeds in small bodies of stagnant water, as does the malaria-bearing mosquito, are similar to those used against the latter. According to Dr. Reed's observations, this mosquito will not bite when the air temperature is below 62° F. He also says that an interval of not less than twelve days is necessary after the infection of the mosquito before its bite is capable of causing yellow fever.

The problem of preventing a yellow-fever epidemic when a case is imported into a city resolves itself into two simple factors: First, to prevent any mosquitoes from gaining access to the patient; and second, destroying all that may have previously bitten him. The danger of the importation of infected mosquitoes in baggage and freight is very slight, as the mosquito, when deprived of water, perishes in a few days—five days, according to Dr. Reed's observations.

For destroying mosquitoes that may have already become infected, pyrethrum powder or sulfur is said to be effective. The former, in the proportion of 4 ounces to 1,000 cubic feet of air, will stupefy all the mosquitoes in a tightly-closed room in one hour. They fall to the floor, and may be swept up and burned. Sulfur burned, in the proportion of one pound to 1,000 cubic feet of air, effectively destroys all mosquitoes in a closed room. The result of the application of these discoveries to the city of Havana, in 1901, caused a reduction in the mortality from yellow

fever to less than one-quarter of that of the epidemic year of 1900.

The Light Treatment.—Phototherapy, although by no means a new idea, has only recently come to have a recognized standing in medicine as a legitimate therapeutic agent. It has long been known by physicians that plenty of sunlight is beneficial in some diseases and harmful in others, but until Prof. Finsen, of Copenhagen, published his first paper on phototherapy, in 1893, little use was made of these facts. In smallpox the eruption normally passes into a suppurative stage, and it is as a result of these ulcers that the hideous scars on face and hands remain. Finsen's idea was that, as this scarring is always most pronounced on the face and hands, it is in a measure due to the irritant action of light; and especially to the ultra-violet portion of the spectrum, which contains the chemically active rays. He suggested that smallpox patients should be kept in rooms from which these rays were excluded by the use of red glass and red curtains. The treatment met with considerable success; in many cases the eruption was much modified and little or no scarring resulted. He next turned his attention to the curative action of light as a direct irritant. He found that animals that normally live in the dark are much irritated by exposure to the chemical rays of sunlight, and not at all by the other portions of the spectrum. It had already been shown by several investigators that these chemical rays have considerable germicidal power, and it now occurred to Finsen that they might be of value in treating bacterial diseases of the skin.

One of the most incurable of these is lupus (tuberculosis of the skin), and he went to work at it on this theory. As lupus is especially a disease of the face, it was obvious that ordinary sunlight is not powerful enough to kill the germs, so he tried the effect of concentrating the light by means of lenses, and cutting out the less active portion of the rays with blue glasses. He used an apparatus that made the light about fifteen times stronger than ordinary unconcentrated sunshine, and subsequently found that he could obtain rays of similar intensity by using a powerful arc light (30,000 to 35,000 candle-power). He soon discovered, in working with these concentrated rays, that the blood flowing through the tissues exercised a marked effect in preventing their penetration beneath the surface. While it required fully five minutes to blacken a piece of photographic paper placed behind the ear, if the ear was first compressed so that the blood was squeezed out of it the paper was blackened in twenty seconds, the absence of the red coloring matter of the blood permitting the rays to penetrate almost instantly.

Finsen's apparatus for treatment of lupus by the sun's rays consists of a hollow plano-convex lens filled with an ammoniacal solution of copper sulfate (for cutting out the red rays). The lens is so mounted that it can be turned at various angles. It is used for concentrating the sun's rays on a part in connection with a compression apparatus, consisting of two plates of rock crystal fixed in a metal ring. Through this, which is pressed against the skin, is passed a current of cold water, further to decrease the circulation in the part. The compression disk is held against the skin by the nurse. Only a small area, about the size of a ten-cent piece, is treated at each sitting. Each treatment lasts one hour. Prof. Finsen has also devised an electric-light apparatus. A large arc-lamp is arranged in a sort of hood from which radiate 4 long cylinders, like tele-

scopes. These tubes concentrate the light, and the lower portion is arranged so that a current of cold water can be continuously passed through them, to absorb the heat rays. The compression disk is placed, as in the sun apparatus, at the focus of the light. Rock-crystal lenses are used in the telescopes, as ordinary crown glass cuts off a considerable portion of the chemical rays. The immediate effect of the light treatment is simply a slight redness of the skin. In the course of seven or eight hours this redness increases, and some swelling and slight blistering occur. The application of the light is continued until all the diseased area has been treated, sometimes requiring many months. It is hence very expensive. The cost of running one lamp a year at the London Hospital, Whitechapel, is \$2,000. The results in treating ordinary lupus (*lupus vulgaris*) are excellent. More than 500 cases have been treated at Finsen's light institute in Copenhagen, many of them with excellent and lasting results. Dr. Malcolm Morris, of St. Mary's Hospital, London, considers it "the best remedy for lupus that has yet been found." The obvious advantages of the method are its painlessness and its lack of actual destruction of tissue, as in operations. It also is said to produce wonderfully good cosmetic results, a hideously scarred and ugly skin frequently being transformed into a soft, supple, healthy tissue which can hardly be distinguished from the surrounding healthy skin.

Several cases of superficial cancer have been reported as much benefited by the Finsen treatment.

At the recent meeting of the British Medical Association the method was discussed in considerable detail. Dr. Sequeira, of the London Hospital, Whitechapel, who is in charge of the largest installation of the light plant used for therapeutic purposes in Great Britain, where 60 or 70 patients are treated every day, expressed his strong belief in the great value of the treatment. He also reported good results in a case of leprosy treated by it. Dr. Malcolm Morris gave the following statistics resulting from eighteen months' use of it. Sixty cases were treated—36 lupus vulgaris, 6 lupus erythematosus, 14 rodent ulcer, 2 alopecia areata, 1 keloid, and 1 epithelioma. Eight of the lupus patients were cured, in 9 the treatment had been abandoned, and the remainder were still receiving it. Seven of the rodent-ulcer cases were cured. Regarding the keloid and epithelioma cases, nothing definite could yet be said. Dr. Morris also said that the remedial action of the light was directly proportional to the reaction caused by it—that is, the more irritation and inflammation it causes, the more effective it is. He had also found that brunettes are not as good subjects as blonds, and the darker their skin the less amenable they are to the treatment.

Drs. Noiré and Sabourand, of Paris, reported cases of skin-disease successfully treated by Finsen's method at the St. Louis Hospital. A modification of Finsen's apparatus, devised by Drs. Lortel and Genoud, of Lyons, was described at this meeting. It treats an area $1\frac{1}{2}$ inch in diameter at each sitting, and requires only fifteen-minute applications, instead of sixty minutes.

The X-rays have also been used to a considerable extent in the treatment of skin-diseases, in many cases with considerable success. But the Finsen method is said to be much more effective, and the X-rays are now recommended by Dr. Morris chiefly for use in situations where the Finsen light can not be applied—in the interior of the mouth and nose, for instance. Although the light treatment is still in an early experimental stage,

it is very probable that a new therapeutic agent of considerable value has been discovered.

Antitoxins and Serum Therapy.—It was recognized early in the history of medicine that certain diseases occur only once in the same individual—that is, that the effect of the disease on the system in some way protects it from subsequent attacks. When it was found that a mild attack of smallpox could be induced by inoculating the contents of a pustule into a healthy subject, and that this mild attack conferred immunity just as effectively as when the disease was contracted in the ordinary way, the antitoxin treatment was inaugurated. This method of treating smallpox was introduced into England by Lady Mary Wortley Montagu in 1721; but it is probable that it was used by the Indians and the Chinese hundreds of years before. Many dangers were connected with the direct transference from person to person of the infective material. The smallpox patient might be suffering from syphilis, for instance, and this disease might be inoculated along with the smallpox. Again, the result of inoculation was to produce an attack of true smallpox, which was infectious, and could be transferred to other individuals by ordinary infection, and cause dangerous attacks. So the method met with considerable opposition. In 1798 Jenner published his account of the protective action of cowpox. This proved to have all the advantages of the direct inoculation, and none of the latter's dangers, and its wide-spread use has practically stamped out smallpox. The theory of the action of the cowpox vaccine is that cowpox is a disease caused by the entrance into the cow of a specific infection, and that its passage through the latter animal, which is little susceptible to the disease, weakens its virulence, or attenuates it to such an extent that it is not dangerous to man, although its inoculation into his system gives him all the immunity against true smallpox that a severe attack of the disease confers. It has been discovered that other human disease germs may be diminished in virulence by this same method of passing them through animals that are only slightly susceptible to the disease. Several other methods of lessening the virulence of disease germs have been discovered recently. If they are exposed to temperatures above that at which they grow best, or to direct sunlight, or to the electric current, or to the action of chemicals such as carbolic acid, it is found that their virulence is much diminished. Anthrax vaccine is obtained by growing cultures of the germs, obtained from cases of the disease, at somewhat higher temperatures than their normal, and using these for inoculating patients, in doses of gradually increasing virulence. Still another method of decreasing bacterial virulence is by drying. This is the device used by Pasteur for making his rabies vaccine. He found that for each day of drying the brain of a mad dog, which if injected when fresh into the brain of another dog produces hydrophobia, it lost a certain amount of its virulence; and that after fourteen days it had entirely lost the power of producing the disease. In treating a case of "mad-dog" bite, unless it is very urgent, the first injection is made with a well-dried or weak virus; each subsequent injection is a little more virulent, until finally the full strength is inoculated and the individual has become immune to hydrophobia.

In still other cases the products of the growth of microorganisms or extracts of the dead germs themselves can be used to secure artificial immunity in man. Koch's tuberculin belongs to the latter class, as does also Haffkine's antiplague serum.

Another, and perhaps the most successful of all the antitoxin methods (with the exception of Jenner's vaccine), is that used in the treatment of diphtheria. Emil Behring, in 1890, discovered that the blood and serum of animals that had been rendered artificially immune to diphtheria by graduated injections of the germ possessed pronounced antitoxic properties when injected into human beings. The subsequent investigations of Ehrlich, Roux, and others have standardized this antitoxin, which is now commonly made by immunizing horses and using their serum. The use of this serum has very markedly reduced the mortality from diphtheria, and it is now the routine treatment for the disease.

The two antitoxins that have received the most attention recently are those used against typhoid fever and plague. The method of obtaining the antityphoid serum used by Dr. A. E. Wright, of Netley, is as follows: A virulent mass of typhoid germs is allowed to grow at about 37° C. for two weeks, and is then heated at 60° C. until the germs are killed. A small quantity of lysol, an antiseptic, is now added. The resulting fluid contains the poisons produced by the growth of the bacteria, as well as the portions of the latter's bodies which are soluble. The injection of 5 cubic centimeters of this fluid will kill a small guinea-pig in less than twenty hours. The amount used for injection into human beings is two-fifths of that necessary to kill a guinea-pig weighing 250 grams. A second dose of double the quantity may be given in a week. The effects produced by the injection of this antitoxin are fever (up to 102° or 103°), severe headache, loss of appetite, and in some cases vomiting. The reaction subsides in three or four days. There is still considerable difference of opinion among students as to the value of this serum. Dr. A. E. Wright, who has experimented extensively with it, gives the following statistics. In 1900, of 11,295 individuals under observation in India, one-fourth were inoculated. Of the inoculated, 0.95 per cent. contracted the disease, and a mortality of 0.2 per cent. resulted. Of the uninoculated 2.5 per cent. had the disease, with a death-rate of 0.34 per cent. In the British army in Bengal, for the period of Oct. 22, 1899, to Oct. 22, 1900, of the inoculated 0.55 per cent. had the fever, with a mortality of 0.27 per cent.; of the uninoculated, 6.14 per cent. took the disease, and 3.35 per cent. of these died. Among the British troops in Egypt and Cyprus in 1900, of the inoculated 0.14 per cent. had typhoid, with a mortality of 0.14 per cent.; of the uninoculated, 2.5 per cent. had the disease, and 0.4 per cent. of these died. During an epidemic of typhoid at a large insane asylum in Dublin, Ireland, 511 persons were inoculated and 114 not inoculated. In the inoculated, 7 cases developed; in the uninoculated, 29. There are several plague sera—Haffkine's Yersin's, Roux's, Lustig and Galleoti's, and Calmette's. Of these Haffkine's and Calmette's have been the most extensively tested. Haffkine's serum is obtained by simply killing cultures of the plague bacillus (*Bacillus pestis*) by continued heating at 70° C., and using the resulting fluid for injection into man. Considerable success has attended the use of this serum in India. Dr. Calmette, of the Pasteur Institute in Paris, obtains his antitoxin by first establishing immunity in the horse, as is done in the case of the diphtheria antitoxin, and then using the latter's serum for human injection. He gives very favorable statistics.

Dr. Calmette has also devised a snake-bite antitoxin, which he calls antivenine. It has proved valuable when used immediately after the occur-

rence of the bite. Dr. Calmette was himself recently bitten by one of the poisonous snakes in his laboratory, and probably saved his life by the immediate use of antivenine, although he ultimately lost the finger that was bitten, through gangrene.

Among other sera that have been tried, but as yet not sufficiently to furnish very definite information regarding their value, are an antistreptococcal serum which has been used in the treatment of pernicious anemia, in septicemia (blood-poisoning), and in puerperal fever, and an antitetanic serum used in tetanus (lockjaw).

The Differentiation of Human and Other Mammalian Blood.—In the *Deutsche Medizinische Wochenschrift* of Feb. 7, 1901, Dr. Uhlenhuth describes a method of distinguishing between the blood of man and the common warm-blooded animals. The possibility of a reliable test of this sort is of the utmost medico-legal importance. The method is described by Dr. Uhlenhuth as follows: At intervals of six to eight days about ten cubic centimeters of defibrinated human blood are injected into the abdominal cavity of a rabbit. After five such injections the blood-serum of the rabbit is fit for use. Samples of the blood of different animals are diluted with about 100 times as much ordinary water, making pale-red solutions of an equal depth of color, which are then filtered. Two cubic centimeters from each of these solutions are placed in separate test-tubes, and each mixed with 2 cubic centimeters of a solution of common salt, of a strength of 1.6 per cent. It is essential to use this particular salt solution, for the normal serum of the rabbit mixed with plain water gives rise to a turbidity that may interfere with the test. Dr. Uhlenhuth employed in his experiments the blood of man, the ox, horse, ass, pig, sheep, dog, cat, stag, fallow deer, hare, guinea-pig, rat, mouse, rabbit, common fowl, goose, turkey-cock, and pigeon. To each of the prepared test-tubes are now added 6 or 8 drops of the serum of the rabbit that has been injected with human blood. In the test-tube containing the solution made with human blood appears a distinct turbidity, which finally leads to the deposit of a copious flocculent precipitate; while the contents of the tubes containing solutions of the blood of the other animals remain perfectly clear. The reaction is very delicate, only traces of blood being required. Dr. Uhlenhuth succeeded in recognizing specimens of human blood that had been allowed to dry on a board for four weeks. His experiments were carried on at the Hygienic Institute of the University of Greifswald.

Spinal Anesthesia.—Leonard Corning, an American physician, is said to have first suggested the direct injection of drugs into the spinal canal, for the production of local anesthesia without affecting the brain. Bier, in 1899, first tried the method in actual practise, and it has since been used extensively, especially on the Continent. The method of procedure is described by Tuffier, of Paris, as follows: An ordinary hypodermic syringe is used, with a long needle. The patient is seated and bent slightly forward. The needle is now carefully inserted just above or below the spinous process of the fourth lumbar vertebra. As soon as it enters the medullary canal the clear, yellowish cerebro-spinal fluid begins to escape drop by drop. The hypodermic syringe is now screwed to the needle, and from 15 to 30 drops of a dilute solution of one of the local anesthetics—cocaine, eucaine, or tropacocaine—are slowly injected. The needle is then withdrawn, and the small puncture is closed with collodion. The anesthesia passes gradually upward

from the feet to a height corresponding to the distribution of the highest affected spinal nerves.

The subject of spinal anesthesia is still in an unsettled condition, some observers praising it highly and others finding it dangerous and inefficient. Tuffier has performed more than 200 operations under it, and thinks it very valuable. Baker, of University College, London, also speaks highly of its value. Bier, who has used it considerably, does not encourage its general adoption. Delbet concludes that it offers no advantages over chloroform. Some surgeons prefer cocaine, others eucaine, and Dr. Schwarz has found that tropacocaine, in doses of 0.015 gram to 0.050 gram, gives the best results.

The method has been used in many cases where a general anesthetic was contraindicated, owing to heart or kidney disease, and its chief field of usefulness will probably be found in such cases. An attempt has also recently been made to produce neuro-regional anesthesia by injecting cocaine into the large nerve trunks.

Cancer.—The present methods of treating cancer may be roughly divided as follow: operation, drugs, bacteriatherapy, organotherapy, phototherapy, antitoxins, and electricity. In bacteriatherapy (Coley's method) another germ, or germ toxin, is injected into the cancer, on the theory that it will act as a poison to the cancer microbe. In organotherapy (Beatson's method), certain glands are removed, or the secretions of others are supplied to the body, on the theory that cancer is due to some perversion of glandular function.

By far the best results in the treatment of cancer are obtained through early and extensive operation. It is of the utmost importance that the extirpation be done as early as possible. For this reason every abnormal growth in the shape of a suspicious lump or "sore" should be immediately examined by a physician, and, if there is any doubt regarding its benignity, instantly cut out. There is no doubt that thousands of persons die horrible deaths every year who might have been saved for many years of usefulness if the surgeon had been called in early enough. The other methods of treating cancer are usually only adopted as a last resort, in cases upon which, either owing to the large extent of the disease or its inoperable situation, the surgeon is helpless, or else when the patient absolutely refuses operation.

The local application of caustic drugs is the regulation method of the numerous advertisers of cancer cures "without use of the knife." It is sometimes successful in the superficial forms of the disease. The injection of various irritating substances has also been tried, among them oil of turpentine, arsenious acid, acetic acid, alcohol, methyl violet, the venom of the cobra-dicapello, and *Chelidonium majus* (celandine). The latter drug, which is sometimes given internally, is much used in Asia and the East Indies for the treatment of warts and tumors; and according to Dr. William B. Coley, of the New York Cancer Hospital, it undoubtedly has some influence on cancerous growths. The internal administration of drugs has met with little success.

Dr. George T. Beatson, of the Glasgow Cancer Hospital, is the originator of a method of treatment that has met with some success, especially in cancer of the breast. It consists of the removal of the ovaries by operation, and the subsequent administration, in some cases, of extract of thyroid gland. Stanley Boyd reports success in 35 per cent. of the cases so treated. Dr. Robert Abbe, surgeon to St. Luke's Hospital, New York

city, has also had considerable success with it, and has recently reported two remarkable cures.

Dr. William B. Coley, surgeon to the New York Cancer Hospital, experimented in 1892 with injections into cancer of the mixed poisons resulting from the growth of the streptococcus of erysipelas and the *Bacillus prodigiosus*. Although the treatment is somewhat dangerous, Dr. Coley's statistics show that about 12 per cent. of the cases are fairly successful, and its trial is certainly warranted when other means have failed. Regarding the use of the cancer sera, or antitoxins, statistics collected by R. Eschweiler, of Bonn, indicate that they have little if any value. The effect of the passage of an electric current through the diseased tissue has also been tried, but with little success. An electrolytic method, using a mercury-coated electrode introduced into the substance of the cancer, is believed by Dr. Coley to warrant further trial. The X-rays and Finsen's light apparatus have been tried somewhat extensively in the last year or two. The latter has proved very valuable in a variety of cancerous growth known as rodent ulcer, and Dr. Malcolm Morris, of St. Mary's Hospital, London, has reported positive cures. Other investigators have also announced some success with it, although it has not been so successful in other varieties of cancer.

The X-rays have seemed to possess a curative action in some cases. Dr. Carl Beck, at a recent meeting of the German Medical Society of New York, showed a case of melano-sarcoma, one of the most malignant forms of the disease, which had been markedly improved by X-ray treatment.

The cause of cancer is still an unsettled question, physicians and pathologists differing radically regarding its origin. There are four general theories—the embryonal of Cohnheim, which supposes the affected tissue to have either contained an isolated portion of embryonal tissue which suddenly becomes active, begins to grow, and forms the cancer, or through some change in condition, the tissue itself suddenly assumes embryonal qualities. The parasitic theory attributes it to a specific germ, a cancer bacterium. The dietetic ascribes it to high living; and the irritation theory supposes it to be due to long-continued irritation, as from constantly holding a clay pipe in the mouth, or from bruises or abrasions. Of these, the embryonal and the parasitic have the most supporters.

Several physicians—among them Dr. Roswell Park, of the New York State Pathological Laboratory at Buffalo, Dr. H. G. Plimmer, of St. Mary's Hospital, London, several investigators on the Continent—Sanfelice, of Cagliari, Roncali, of Rome, and Durante—have isolated organisms from cancer-cells which they believe to be the true cause of cancer. In the English Practitioner for April, 1899, Dr. Plimmer published several plates showing these cancer germs. Dr. Park says of the work at the Pathological Institute in Buffalo: "In virtually every case of cancer yet examined, where we have had access to the fresh specimen, it has been possible to find bodies which can not be other than parasites, . . . and they can now be demonstrated to any one at the laboratory." In an address before the American Medical Association at St. Paul, June 5, 1901, he said they had been able to cause cancer in animals by inoculating them with cancerous material from the human subject. He also called attention to the fact that independent investigations by Pfeiffer, Sawtschenko, Sjöbring, Eisen, and Max Schüller have corroborated in detail the results attained at the Buffalo Institute.

Regarding the increase of cancer, which considerable has recently been reported, also much difference of opinion among physicians. The majority, perhaps, believe that there has been a considerable increase in its prevalence.

Dr. William Whitney, at the recent annual meeting of the Massachusetts Medical Society, quoted statistics from large hospitals, insane asylums, etc., which indicated that there has not been an increase. Notnagel found, from a study of the statistics at the K. K. Allgemeines Krankenhaus, Vienna, that there had been no appreciable increase in its prevalence.

It is contended by some physicians that the large and apparently continued increase which most statistics appear to show is due simply to improved methods of diagnosis, which now correctly label as cancer many cases which a few years ago would have escaped detection.

One of the recent and novel theories to account for cancer—interesting probably chiefly because of its novelty—is put forward by Dr. John Holden Webb, of Melbourne. He believes cancer to be due to the precipitation from solution of cholesterol, a wax-like constituent of bile. This is normally held in solution by a natural soap. When for any reason this soap is not present, cholesterol is deposited and a cancer-cell formation is started. So Dr. Webb's remedy for cancer is soap solution, subcutaneously injected. He claims to have successfully treated cancer in this way.

Another novel suggestion has been made recently by F. Loeffler. He calls attention to observations by the older clinicians showing that the supervention of a malarial infection can cause the disappearance of cancerous growths, points out that the disease is rare in the tropics where malaria abounds, and urges experimental work with injections of the malarial organism.

Bovine and Human Tuberculosis.—The announcement by Dr. Robert Koch at the tuberculosis congress held in London in the past summer that bovine and human tuberculosis were two different diseases, and that the human disease could not be produced in cattle, was not by any means a novel theory, several other students having previously announced a similar view. But the fact that Dr. Koch himself was the discoverer of the tubercle bacillus, and that his researches had been chiefly instrumental in building up the elaborate precautions now in force against tuberculous cattle, and their meat and milk, gave his statements an unusual interest. The experiments on which he based his views were briefly as follow: Six young cattle were fed with tubercular sputum almost daily for seven or eight months; four repeatedly inhaled great quantities of bacilli that were distributed in water and scattered with it in the form of spray. In other cases, the tubercle bacilli or the sputum was injected under the skin or into the abdominal cavity. None of these cattle (there were nineteen) showed any symptoms of the disease, and they gained considerably in weight. From six to eight months after the beginning of the experiment they were killed, and not a trace of tuberculosis was found in their internal organs. When these same experiments were repeated with tubercle bacilli from tuberculous cattle, the animals invariably became tuberculous.

As has since been pointed out by several writers, even if cattle are immune to human tuberculosis, man might be susceptible to the bovine form of bacillus, and, as Dr. Koch himself said, the direct experimental test of this question, involving as it would the deliberate infection of human beings, is at present impossible.

In a subsequent address at the same congress Dr. John McFadyean, principal of the Royal Veterinary College, London, questioned Dr. Koch's conclusions, giving his opinion that "there still remain reasonable grounds for regarding tuberculous cow's milk as distinctly dangerous to human beings." He pointed out the fact that the bacilli from the two diseases are indistinguishable, and said that he and other experimenters had repeatedly succeeded in causing undoubted tubercular lesions in cattle by the injection of human tubercle bacilli. In conclusion he said: "I earnestly hope that the congress will not in-dorse the view that it is inadvisable to take any measures to prevent the transmission of tuberculosis from the lower animals to human beings. To justify the introduction of measures to that end, it is not necessary to contend that this is a common method of infection, or that the danger arising from milk can for a moment be compared with that present in human sputum. The inhalation of tubercle bacilli expelled from the bodies of human patients is doubtless the great cause of human tuberculosis, and every practicable means of preventing infection in that way ought to be employed. But at the same time we ought not to concede to the milkmen the right to sell us tubercle bacilli, even if we are assured that, like Prof. Koch's experimental pigs, we have nothing to fear beyond the development of 'little nodules here and there in the lymphatic glands' of our neck, and 'a few gray tubercles' in our lungs."

Other pathologists, among them Lord Lister and Profs. Bang, Nocard, and Sims Woodhead, refused to accept Dr. Koch's statements as conclusive, and while they admit that the danger from tuberculous milk and meat may have been much overrated, they strongly deprecate any relaxation of the present laws against tuberculous cattle and their products.

A royal commission was appointed by the British Government, soon after the congress, to determine the exact relation between the two diseases.

Rats and the Plague.—It had long been suspected, owing to the fact that a rat plague was almost invariably observed to precede and accompany human epidemics, that there was some connection between rats and human plague. So that when, in 1894, Yersin and Kitasato isolated the plague bacillus (*Bacillus pestis*), and it was subsequently found in rats, the identity of the two diseases was accepted with little question. These and other investigators worked out the relationship between the two diseases, and a series of sanitary regulations are now in force at many seaports liable to plague infection which have for their chief purpose the destruction of infected rats. The local government board of London issued, in the past summer, a series of recommendations to the British port authorities for prevention of the plague, which consisted almost entirely of directions for destroying infected rats. In the London Lancet for Aug. 3, 1901, Dr. Alexander Edington, director of the Bacteriological Institute of Cape Colony, published an article in which he described experiments made during an epidemic of plague in Cape Town which at any rate suggest the possibility that rat plague and human plague are not the same disease, and are due to different bacilli. His researches, however, were not extensive, and do not justify any change in present preventive measures.

METALLURGY. Structure of Metals.—Much attention has been paid of late years to the study of the structure of metals as affecting their

qualities in use, and in this great aid has been afforded by micrographical examination.

A research concerning which a first paper was read before the Iron and Steel Institute has been carried on for six years by Prof. J. O. Arnold, for the purpose of elucidating the cause of the extraordinary discrepancies which are met with in the practical working of two steels, perhaps of identical composition, contradicting what might have been anticipated from the results of previous experiments. A series of specimens of metal containing iron and from 0.06 to 1.95 per cent. of carbon, and practically free from silicon, manganese, sulfur, and phosphorus, were experimented upon to ascertain the various effects produced by the usual forms of heat and mechanical treatment to which metals are liable to be subjected. Seventeen types of metal were experimented upon, each of which was cast in a composite mold with a central head, so as to obtain four bars at the same time with the same pot of metal. The bars, which were of course identical, were broken off at the head; two of them were tested as cast, while the other two were rigorously annealed and tested, records being taken of the influence of annealing upon their properties and structure. The results attest the enormous difficulty with which the elucidation of the behavior of the simplest form of steel is attended. A careful investigation of the specific gravities gave negative results, and showed that no correlation exists between the density and the mechanical properties of castings. As in specimens which were compared with one another, the composition and annealing conditions were identical; there was only one condition which could have had a variable influence, viz., the initial temperature of the casting. This might determine a condition of metal which might survive the drastic operation of annealing. This suggestion was offered as a possible explanation, but actual proof awaits the discovery of a means of accurately determining the temperature of molten steel. The author spoke of the hopelessness of generalizing laboratory results obtained with small plain bars and putting forward the generalizations for guidance in works practise. As a practical summary of the lessons taught by these preliminary results, Mr. Arnold affirms that steel consisting of pure iron and carbon is not a suitable material for fulfilling the modern specifications drafted by engineers for steel castings; that the ductility demanded can be insured with ease, but not the required tenacity; that the tenacity can be obtained, but with the almost complete loss of ductility; and with the exception of the nearly pure iron, the castings he had described—that is, without silicon or manganese—have small manufacturing value. Nevertheless, they form the basis on which the mechanical influence of silicon and iron can alone be scientifically measured.

In another paper relating to this subject, on Practical Problems in the Metallography of Steel, Mr. Arnold said that the theory that steels of identical chemical composition would necessarily have the same mechanical properties had long since been discarded. It is a fact that steel of excellent chemical composition, giving highly satisfactory mechanical tests, may nevertheless utterly fail in use; thus, a ductile steel which bends double cold without any sign of flaw or failure may, under the influence of vibration, snap like a piece of glass, though only subjected to mechanical stresses well below its elastic limit. This is proved beyond all doubt by data in the author's possession. In many cases the microscope is capable of giving warning of the dangerous char-

acter of a steel chemically, and apparently mechanically, safe. In order to describe intelligibly the structure of safe and dangerous steels, it is necessary to consider the micrographic constituents of structural steel and the molecular migrations of these constituents when at a red heat the metallic mass is in a semiplastic condition. The constituents of a typical micrographic steel rail containing, approximately, besides the iron, carbon 0.40, silicon 0.05, manganese 0.90, sulfur 0.06, phosphorus 0.06 per cent., together with small percentages of arsenic and copper, are the pale, simple constituent ferrite (in this case somewhat impure iron); the dark etching compound constituent perlite, consisting of mixed granules of iron and of a double carbide of iron and manganese; and the dove-gray simple constituent sulfid of manganese. In manganiferous steels these constituents are completely differentiated visually only under slow cooling from a full red heat. This fact introduces the vital question of the migration of constituents. Sulfid of manganese is not, under working conditions, capable of migrating to any appreciable extent. Thus it remains to consider only the migrations of the ferrite and perlite. On heating the typical steel specified to about 700° C., the compound constituent perlite is converted, with absorption of heat, into the simple constituent, martensite. Then the constituents ferrite and martensite diffuse one into the other till, at about 800° C., molecular equilibrium is eventually established. If, however, the steel be cooled very slowly, the molecules of martensite and ferrite will perfectly segregate in the respective proportions of about 45 and 55 per cent. Then, at about 640° C., the martensite will decompose into the compound constituent perlite, which, owing to the presence of manganese, will be granular and not laminated. On the other hand, if the steel is somewhat quickly cooled in air, the segregation of the constituents will be imperfect, and the apparent proportion of perlite relatively large, because, owing to the influence of the manganese present, the phenomenon of constitutional segregation is retarded. In a case in which the rail was slowly cooled in the reheating furnace during a period of fifty hours, the micrograph showed that the pale ferrite and dark granular perlite had perfectly segregated mainly in the form of thick, alternating laminae. This structure must be regarded as highly dangerous, because under vibration the adhesion between the constituents is liable to loosen gradually and finally to be destroyed. Nevertheless, mechanical tests would inevitably reveal little difference in the ductility of the two pieces of rail. These facts give the clue to the direction in which the steel microscopist must look for danger with reference to rupture under vibration. To obtain complete knowledge of the quality of the steel, three micrographs should be taken, in three planes of section, at right angles to one another—namely, transverse, longitudinal-horizontal, and longitudinal-vertical sections. Usually the preparation of micrographic sections has been too complex a work for practical use in the shop, but the author has devised a simpler method by which the micrographs can be prepared in a very few minutes, which is explained in his paper in *Nature* of April 25, 1901.

Metals as Fuel.—The use of metals as fuel was treated in a thorough manner by Sir W. C. Roberts-Austen in a lecture delivered at the Royal Institution, Feb. 22. Treating the subject historically, the author said that in smelting iron in the old way carbon became associated with it, and in its conversion into steel the iron had to

be decarbonized. In doing this, metallurgists for centuries truly burned some of the iron itself, using it actually as fuel. The most metals as fuel assumed magnificent proportions from the hands of Bessemer. His great service to the steel industry was in demonstrating the possibility of using metalloids and metals as fuel. In a table showing the amount of heat evolved by burning one gram each of certain elements, after carbon and silicon, the first place is occupied by aluminum, which gives out 7,250 calories in the production of Al_2O_3 or alumina. Other items in the table are:

ELEMENT.	Calories.	Products.
Magnesia.....	6,000	MgO
Nickel.....	2,200	NiO
Manganese.....	2,110	MnO ₂
Iron.....	1,790	Fe ₂ O ₃
Iron.....	1,580	Fe ₂ O ₄
Iron.....	1,110	FeO
Cobalt.....	1,090	CoO
Copper.....	600	CuO
Lead.....	240	PbO
Barium.....	90	BaO
Chromium.....	60	Cr ₂ O ₃
Silver.....	50	Ag ₂ O
Carbon.....	8,080	CO ₂
Carbon.....	2,417	CO
Silicon.....	7,890	SiO ₂

This table indicates the advantages which certain metals possess over carbon for use as fuel. The temperature at which such metals as can be used for fuel begin to abstract oxygen from the air depends on the method in which the metals are prepared. Some metals can be made to take fire and burn at ordinary temperatures. They are said to be "pyrophoric." As far as the author is aware, metals in this chemically active state have not been used as fuel; neither has any use been made of the allotropy of metals as enabling them to be used for fuel. The burning of the metal antimony plays an important part in the roasting of silver ores. Aluminum was the metal the use of which as fuel formed the chief subject of the author's lecture. The starting-point of the experiments in this use was the discovery by Charles and Alexandre Tissier in 1856 that aluminum decomposes the oxids of lead and copper. These experimenters, not using the metal in a finely divided state, failed in the reduction of some of the metals. At a meeting of the Royal Society in June, 1894, Claude Vautier showed a few metals which had been produced by this method, including carbon-free chromium and manganese, and gave an impulse to the movement. A lecture on *The Rarer Metals and their Alloys*, delivered by the author before the Royal Society in 1895, is mentioned as the first occasion in which the reducing action of aluminum was demonstrated on a comparatively large scale, and was shown to cover an extended series of metallic oxids. Since that time great progress has been made, the most noteworthy advance having been in the direction of using aluminum for the sake of the heat afforded by its combustion as a true fuel. In this combustion the oxygen is derived not from the air, as when carbon is burned, but from a metallic oxid; when the metals change places the aluminum is oxidized and the other metal set free from its oxygen.

Use of Blast-Furnace Gases.—The inaugural address of the new president of the British Iron and Steel Institute, Mr. William Whitwell, was devoted mainly to a review of some of the many problems in the iron and steel industries still awaiting solution. There were two items of waste in blast-furnace operations, the speaker

aid, which presented problems for solution—namely, the loss of heat contained in the iron, and the slag. The heat lost in 100 tons of pig-iron was equivalent to 4.125 tons of coal. Thus in a blast-furnace plant producing 100,000 tons of Cleveland pig yearly, the heat lost in the iron would be equivalent to that given by 4.125 tons of coal. The total make of the Cleveland district approximated 2,250,000 tons annually, and the heat in that weight of iron would be equivalent to that of 92,800 tons of coal. The heat in the slag was a more serious item of waste. A furnace working on Cleveland ironstone produced 30 hundredweight of slag per ton of pig, or 150 tons of slag to 100 tons of iron. The heat in 150 tons of slag was equivalent to 10.3 tons of coal. Thus in a blast-furnace plant producing 100,000 tons of Cleveland pig yearly, the heat lost in the slag would be equivalent to 10,300 tons of coal. The estimates of the author showed that a total of 2,670,000 tons of slag was produced yearly in the Cleveland district. The heat in that weight of slag was equivalent to 183,340 tons of coal, and if we added to that the loss in the iron, the total amounted to 276,140 tons of coal. At 10 shillings per ton that was equivalent to £138,070 as the sum representing the value of the waste heat in the iron and slag of the Cleveland district. It would of course be impossible to recover all that waste heat and apply it to some useful purpose, but a large proportion of it should be reclaimed; and here was a problem for metallurgists and engineers to solve. Another item of waste was blast-furnace gases, although of late their value for use in gas-engines had been recognized and in some instances they had been employed in that way. The president estimated that the waste from this source going on in the blast-furnaces of the Cleveland district was equivalent to 92,500 horse-power. The utilization of blast-furnace slag was then considered. It had been clearly shown that useful materials could be made from it—its application in the making of paving-blocks, bricks, and slag cement, and as a fertilizer being instanced—and the problem was to make the manufacture of such materials a success commercially, and at the same time to find out some other means of utilization which would consume, if possible, all the slag made. The president spoke approvingly of the attempts being made to extract potassium cyanid from blast-furnace fumes, and the desirability of producing a pure pig-iron equal to the Swedish, as was done in America.

The Profitable Utilization of Power from Blast-Furnace Gases was the subject of a paper read by Mr. B. H. Thwaites at the Glasgow meeting of the Iron and Steel Institute. The author suggested that in Great Britain, at least, the blast-furnace might be made the center of cheap electric power supply areas, and pointed out that its function might under certain conditions become a dual one, with the production of iron occupying a secondary place. Thousands of horse-power were being developed on the Continent at the present time by the direct combustion of blast-furnace gases, and with a thermal expenditure that a few years ago would have been thought unattainable. Numerous directions were suggested in which electric energy might, under suitable conditions, be made available for industrial purposes.

A dynamic method of cleansing blast-furnace gases from dust, so as to make it possible to use them for gas-engines, was described before the Iron and Steel Institute by Mr. Adolphe Greiner. It is based upon the principle of throwing the dusty gases and a spray of water together by an ordinary centrifugal fan against the periphery of

the apparatus. The liquid and solid particles are then expelled by an opening in the envelope, and led away therefrom by a pipe in the lower part of the fan casing, while the gases, which have become well mixed by the action of the rotating blades, escape the orifice ready for use without further treatment.

The progress in the use of blast-furnace gases in metallurgical practise has been very rapid, and it is claimed in *Nature* of Jan. 3, 1901, that all the difficulties in the way were successfully overcome during 1900. A list of more than 33 blast-furnace engines of from 200 to 1,000 horse-power each, in operation in different European establishments, is given by Prof. Joseph W. Richards in the *Journal of the Franklin Institute*. This author makes a calculation based upon the figures from a blast-furnace plant in eastern Pennsylvania showing that a very great saving of power is possible by the economical utilization of the blast-furnace system.

Iron and Steel.—In a paper on the Correct Treatment of Steel, in considering the effect that composition and initial treatment have, as compared with subsequent treatment, on the ultimate properties of steel, Mr. C. H. Ridsdale said that too much importance is attached to the composition *per se*, and too little to the right treatment. He observed that every steel has a composition of its own, and that a specimen made by one process might be softer than a similar metal made by another process, so that to condemn the second as bad because it suffers under certain treatment suitable to the first is obviously wrong. Dealing with the effect of work on steel at different temperatures, Mr. Ridsdale said that in cooling from the molten condition the iron crystallizes first, but the grains have no cohesion, owing to the softness of the impure mother-mass or cementing portion, so that the material will easily break or be red-short. As the cement becomes more plastic, the metal can be readily worked, since the grains can move freely in it, but in cooling, the grains are likely to grow and produce brittleness. At a lower temperature (about 1,000° C., orange or bright red heat for soft steel), the critical point is reached in which the cement and grains are of equal hardness. Work at this stage breaks up the grains and imparts toughness by the interlocking of the grains and cement. If the finishing temperature of rolling be high, the metal will soften, but may become brittle with slow cooling, while if it is too low, the hardness of rolling is not entirely eliminated, so that the temperature of finishing should be between these tendencies. The relative plasticity of the two constituents becomes low through the lower or red-heat stages until it reaches the minimum stage at blue heat, about 316° to 370° C. At this stage the metal does not uniformly receive the force applied to alter its shape, and critical strains are set up, which, owing to the low temperature, have not time to adjust themselves during further cooling. The resultant metal is liable to rupture with sudden shock, or may yield to a slowly applied strain. As the temperature gets below straw heat, 250° C., and until cold, the steel is more plastic than at a blue heat, but becomes tender again below zero. If a coarse-grain steel is rapidly heated, the grains are broken up more efficiently than if it is slowly heated.

The results obtained in an investigation by W. N. Hartley and Hugh Ramage of the spectra of flames resulting from operations in the open-hearth and basic Bessemer processes were different from those which had been previously obtained by observing the acid process. The con-

tinuous spectrum was much stronger. Many lines and bands new to the Bessemer flame spectra were observed. Twenty-six plates of spectra were photographed. The spectra increased in intensity as the blow proceeded in the first stage, a result which could come only from a corresponding increase in the temperature of the bath of metal and of the flame. Difficulty was experienced in the identification of some of the lines and bands; some were due to uncommon elements, and others were relatively much stronger than a study of the oxyhydrogen flame and other spectra of the same metals had hitherto shown. Line spectra were not observed in the open-hearth furnace—a circumstance attributed mainly to the fact that the atmosphere of the furnace is oxidizing, when only sodium gives a spectrum approaching in intensity that which it gives in the reducing flame. Among other differences between the phenomena of the basic Bessemer blow and those of the acid process, are that in the former a flame is visible from the commencement of the blowing; that volatilization of metal occurs largely at an early period in the blow; that a very large amount of fume is formed toward the close of the second period; that the overblow is characterized by a very powerful illumination from what appears to be a brilliant yellow flame; and that the spectra of flames from the first stage differ from those of the acid process in several particulars—the manganese bands being relatively feeble, and lines of elements not usually associated with Bessemer metal being present. Differences were noticed in the intensity of metallic lines, it varying with the amount of metal in the charge, and also with changes of temperature; as the temperature of the flame rose, some lines faded almost away, and others became stronger. The changes were more marked in the arc spectrum and still more in the spark spectrum of iron. A new line of potassium, with somewhat widely variable intensity, was observed.

A new iron process described by A. v. Forselles consists in melting in the blast-furnace a mixture of apatite, or some other phosphatic rock, with charcoal, scrap-iron, and suitable fluxes. The products obtained are a slag rich in phosphorus, which is sold as manure, and a pig-iron that contains phosphorus and can be made use of in the Thomas or basic steel process.

Brinell's method of determining hardness and other properties of iron and steel, as described by Axel Wahlberg, of Stockholm, consists in forcing, by means of pressure, a hardened steel ball into the material tested, so as to cause an impression, the diameter of which is then to be measured, in order to obtain the spherical area of the concavity. The quotient resulting from dividing the maximum pressure by this area will represent what is called by Brinell a *hardness number*, indicating, according to him, the amount of pressure (kilograms per square millimeter) to which the material in hand has been subjected. With this method several researches have been carried out, detailed particulars of which are given. They relate to the determination of the hardness of various metals, controlling forging tests, and to the hardness of iron and steel. Under this head, experiments were made to ascertain the influence of the percentage of carbon on the hardening capacity of different quenching liquids, the influence of the temperature of the quenching liquid on the hardening result, and the influence of different hardening temperatures. Other researches described dealt with an attempt to ascertain the homogeneity of iron and steel, the degree of annealing, the influence of cold-working deter-

mination of the yield point, alteration of shape and elongation, and tests of blank and cold-chamber dies.

Observations on the product of a tin-bearing basic Martin furnace in which tin was accidentally present are recorded by A. Züggen. The product was a metal containing 0.55 per cent. of tin, 0.03 per cent. of antimony, 0.03 per cent. of arsenic, and 0.182 per cent. of copper, rolled quite satisfactorily to plate. On further rolling to sheet, cracks began to develop on the edges of the sheet, but they could not, as it proved, be attributed to red-shortness. Bars rolled from the ingot folded completely over under the cold hand test, and showed a tensile strength of 40 kilograms, with an extension of from 31 to 34 per cent. It appears to be proved from this that the presence of 0.55 per cent. of tin in iron or steel does not affect its malleability, tenacity, or extensibility. The welding qualities at most are unproved. In other experiments bearing on the same matter reported in *Stahl und Eisen* and the *Chemiker Zeitung*, samples of iron containing from 0.1 to 0.63 per cent. of tin, when tested, all forged well. On rolling, the samples containing more tin split more readily at the edges. All except the one with 0.63 per cent. of tin, rolled well. They bent satisfactorily, both hot and cold. The tin was irregularly distributed in the ingots. Crucible steel was prepared, containing 0.23, 0.50, 0.68, and 0.62 per cent. of tin. All samples forged well, but the last was somewhat red-short. Some of them would weld. The breaking stress was 72.3–73.9 kilograms per square millimeter.

Experiments are described by F. H. Williams, of Pennsylvania, which go to show that copper reduces the corrosion of soft steel to within that of wrought-iron, and has a similar effect upon the susceptibility of the latter metal.

In a paper on the influence of copper on steel rails and plates read before the Iron and Steel Institute in May, J. E. Stead and John Evans remark that it is generally thought that copper has a very deleterious effect upon the metal, so that engineers when buying steel frequently specify that it must be absent. The observations of the authors show that this general opinion is erroneous, and prove that between 0.5 and 1.3 per cent. of copper has no deleterious effect upon either the hot or cold property of steel; that a very large amount (2 per cent.) makes the steel more liable to be overheated; and that in small quantities it slightly raises the tenacity and elastic limit, but, unlike phosphorus, does not sensibly make the steel liable to fracture under sudden shock. Like carbon, it reduces the power of the steel to extend under stress; but this is not pronounced when the quantity is small. The effect is more marked when large quantities of copper are present. The authors furthermore prove that if the evidence of the open-hearth steel trial can be confirmed, copper, instead of producing red-shortness, has the contrary effect of changing red-short steel so that it will roll without cracking.

In a discussion on the properties of steel containing nickel published in the Report of the Congrès International des Méthodes d'Essai, the principal changes in passing from ordinary steel to steel containing a considerable proportion of nickel are defined as being the lowering of the temperature of transformation of the carbon, the fusion of two of the transformations, and the exaggeration of the phenomena accompanying the double point. In ferro-nickels containing traces of carbon, but more than 20 per cent. of nickel, the transformations are determined by the nickel, while the carbon acts as a retardant. The magnetic properties appear to be due to a certain

molecular transformation which takes place with evolution of heat, and when this molecular grouping is prevented by the presence of some other body, the metal may be reduced to ordinary temperatures without exhibiting magnetic phenomena. Ferro-nickels are compared by the author of the paper to solutions rather than combinations. It is suggested that by the addition of nickel many properties of steel may be studied at temperatures considerably below those at which they occur in pure steel. As an example are mentioned the gradual changes of volume which take place in the course of years, and which in the case of nickel-steels may be observed at the temperature of the laboratory; whereas it would be impossible to study similar changes at an elevated temperature in pure steel.

Treating of nickel-steel as used in commercial work. H. F. J. Porter said at the autumnal meeting of the Iron and Steel Institute that that metal has a lower melting-point than ordinary steel with the same carbon content. In the cooling process, nickel tends to reduce segregation and liquation, so that an ingot of nickel-steel is more homogeneous throughout than one of simple steel, and is less prone to form blowholes. Nickel-steel in process of manufacture is very sensitive to changes of temperature. Therefore, in forging or rolling it, care must be taken to maintain a uniform temperature throughout the body of metal. The tensile strength and elastic limit of this steel are somewhat reduced by annealing, but are raised by oil tempering to an extent beyond that to which the annealing has lowered them. Forgings of it are not hard to machine, but are exceedingly tough. For ordinary forgings, nickel-steel of from 3 to 3.5 per cent. of nickel and 0.25 per cent. of carbon is used. It has from 20 to 30 per cent. greater elongation than simple steel of about 0.50 per cent. carbon, with practically the same elongation and reduction of area. Nickel-steel forgings of high elastic limit are considered best for service where rapid alternations of tensile and compressive stresses are applied. Ordinary steel corrodes about twice as much as nickel-steel of the same carbon content on submersion in salt water. Five per cent. nickel-steel with 1.25 per cent. of carbon, after oil tempering and annealing, has an elastic limit of from 150,000 to 175,000 pounds per square inch, and is especially serviceable for hydraulic cylinders, when very high bursting pressures are applied.

Gold and Silver.—A perfected apparatus of dry concentration, called the Crown concentrator, is based upon the following mechanical principles: 1, That bodies of unequal size but equal weights will fall together; 2, that bodies of equal size but unequal falling weights will not fall together; 3, that the influence of specific gravity upon a falling body increases or decreases proportionately to the density of the medium traversed by the body; 4, that all mineral particles, however finely divided, will in falling, if of equal size and left free to act, arrange themselves in accordance with their specific gravities. The ore is crushed and then put through a series of rolls gaged to give pulps of the necessary fineness, and without reducing the sulfids to a slimy powder. The pulp is then conveyed by a carrier-belt to a sizer, where the particles are sorted according to their fineness, and then to the concentrators, each load of particular fineness being concentrated separately. Finally all the concentrates are delivered into one receptacle and all the waste to one dump, unless for some particular reason it should be desirable to deliver the particular sizes separately.

At Mount Morgan, in Queensland, Australia, the low-grade gold ores are extracted with a prepared solution of chlorin in water, locally termed "solution," and are not "gassed" as in the usual methods. At the plant of the new West Works, which deals with 100,000 tons per annum, the chlorin is made from salt, dioxid of manganese, and sulfuric acid. The gas from the stills is dissolved in water trickling over pieces of glass, etc., with which the towers are filled. The solution runs into the storage tanks, which are covered at the top and worked by pipes and valves in the base operated from above. The vats have a wooden perforated false bottom, and layers of gravel and sand of diminishing size are laid upon it. The ores are thrown into this bed and the chlorin solution runs over it. The gold liquor is drawn through and out from below by a small vacuum of 5 pounds per square inch, and passed on to the storage tanks. Fresh chlorin solution is run in until the exit liquor contains plenty of chlorin, when the ore is washed through with water. The gold is precipitated by passing the liquor through a 2-foot bed of crushed charcoal, lying on a cloth on the wooden perforated false bottom of the filtering vat, the charcoal being afterward burned and the ashes smelted for the metal. An extraction of 92.06 per cent. was shown. The richer sulfid ores, which contain about 4 ounces of gold to the ton at the top works, are, after they have been roasted, treated by the same process, and they then show an extraction of about 95 per cent.

In the extraction of gold from its ores by means of the battery amalgamating process, electro-silvered plates have replaced in most instances the plain amalgamated copper plates, since the latter become more or less tarnished with copper salts, which prevent amalgam or quicksilver from adhering. Attention is called by J. R. Cooper to the fact that all copper contains more or less cuprous oxid, and that, as this oxid does not combine with mercury, a plain copper plate can be only imperfectly amalgamated. Even if at first the whole plate is coated with quicksilver, this will break off from the oxidized parts, and the latter will be exposed to the action of water, oxygen, carbonic acid, etc.

The tailings coming from mills which leach gold ores with potassium cyanid always retain more or less gold, and usually at least one-quarter of the potassium cyanid and more or less free caustic alkali per ton. H. M. Crowther finds that if care is taken to add to the last wash water from one to several pounds of caustic alkali, the tailings will retain sufficient alkali to protect the residual potassium cyanid and allow it to have its solvent effect upon the residue in the tailings, which are being slowly affected by the action of air, moisture, and warmth.

To the millman considering the expediency of using electro-silvered plates in gold milling in preference to plates of copper, the important question, Mr. Edward Halse says, is whether the silvered plates extract more gold from the crushed ore than the copper ones do. The author is convinced from his own experience that this is the case, and that silvered plates therefore should supersede plain copper plates in this work; and he offers many tables of results in support of this view. In the discussion that followed the reading of Mr. Halse's paper, it was pointed out that in many cases the percentage of gold obtained was low in consequence of the failure of the millman to keep his plates clean; and the importance of the use of "elbow-grease" rather than chemicals was strongly emphasized.

Aluminum.—Most of the investigations having for their object the use of aluminum as a source of heat have been conducted by Dr. Hans Goldschmidt, of Essen, and it is through his labors, according to Sir W. C. Roberts-Austen, that metallurgy is entering upon a new phase. In its simplest form, Dr. Goldschmidt's process consists in igniting a mixture of oxid of iron, ferric oxid, and finely divided aluminum. To this mixture the name of "thermit" is given, and several varieties of it, adapted to various kinds of work, are used by Dr. Goldschmidt at his furnaces. The mixture is placed inside of a crucible and ignited by a small piece of magnesium wire, which serves as a kind of wick if it is placed in a little heap of calcium sulfate and aluminum. The aluminum extracts oxygen from the oxid of iron (for instance), and a sufficiently intense heat is produced, not only to melt the iron which is liberated from its oxygen, but also to melt up the slag, and, further, to leave a considerable surplus of heat, which is available for doing other work. No known pyrometer will enable the heat to be measured. The author believes it is about 5,000° C. The ignited and molten mass in the crucible is so intensely hot that it may be made to unite surfaces of steel that require to be joined, such as the ends of the lengths of rails, it being applied, as the author compares it, as a hot bandage might be applied to a wound in surgical treatment. Its work is well comparable with that of the electric arc. The very hot molten iron may also be used for repairing defective castings. By mixing other metallic oxids with the iron oxid, the metals they contain are reduced and alloy themselves with the iron, and the composition of the defective casting can thus be matched. It is likewise possible to produce directly steel of a suitable degree of carburization. The use of aluminum as a reducing agent has been dwelt upon in other years. Manganese and chromium containing only small quantities of carbon are now produced on a large scale for industrial use—metals which are important, chromium in the metallurgy of steel and manganese in that of copper. Alloys of manganese and zinc are likely to prove of value. Other alloys that have been thus obtained are those of manganese and chromium; ferro-titanium; of titanium and manganese; of iron and boron; ferro-vanadium; and of lead and barium. The solid product of the combustion of aluminum is alumina of a high degree of purity, in the specially interesting form of ruby-tinted crystalline masses resembling the natural ruby.

In using aluminum as a fuel or as a reducing agent the question arises as to what extent it must be heated before it will begin to extract oxygen from the air or an oxid. The presence of a little mercury, Sir W. C. Roberts-Austen says, enables aluminum to oxidize more readily, and it will burn sooner in oxygen if its combustion is started by a fragment of charcoal. The temperature at which it will abstract oxygen from a metallic oxid will depend upon the oxid submitted to the action.

A new method of precipitating pure alumina described by C. M. Hall consists in charging bauxite (calcined at a red-heat if necessary), burned lime, sodium carbonate, and water into a digester provided with a stirrer and subjecting the mixture at a considerable pressure to an elevated temperature for from one to three hours. Insoluble carbonates and silicates and inert impurities of the bauxite, such as iron oxid insoluble alumina, etc., will form a residue to be separated by filtration from the insoluble sodium aluminate. From the latter aluminum hydroxid is

precipitated in the usual way by carbonic acid and filtered off. The filtrate, with its excess carbonate, is concentrated by heating and used again with another charge.

In experiments by L. Tetmajer, the best alloy of aluminum brass was obtained with 3.4 per cent. of aluminum, while hard alloys were made with 1.4 per cent. The breaking strain fell rapidly with increasing percentages of aluminum. Silicon acted in the same manner. The experiments with aluminum bronze showed that up to from 5 to 10 per cent. of aluminum the strength increased, while the breaking strain fell. The presence of iron and silicon gave similar results. It was further shown that a 10-per-cent. aluminum bronze containing 1.5 per cent. of iron and silicon was too brittle for ordinary use. Pure aluminum was malleable when cold, as was also the bronze. When, however, the quantity of aluminum in the latter amounted to 10 per cent., the malleability had practically vanished. When hot, the bronze was plastic, malleable, and easily rolled. Hard aluminum bronze wears well in use. The best-rolled bronze contains from 8 to 10 per cent. of aluminum and silicon together.

With a new modification of the Goldschmidt process for aluminothermic welding and casting (see *Annual Cyclopædia* for 1900, p. 361), by L. Cohn, an ordinary workman can effect a good weld. The "thermit" mixture (of which 1 kilogram yields 150 grams of molten iron) is placed in a crucible made of iron plate lined with refractory material, mounted on a substantial tripod and closed at the bottom with one or more small iron plates, according to the quantity of thermit used. The thermit is covered with a layer of kindling or priming mixture and an iron plate with a central hole, through which the charge can be ignited by means of a fusee, is placed over the whole. The crucible thus prepared is placed with its tap-hole immediately above the gate of a refractory mold built around the ends of the two rails to be joined, which are so clamped together that the surfaces to be welded are pressed against each other. In a few seconds after the charge is ignited the contents of the crucible should become fluid, and melting away the supporting plate, should flow into the mold and make the required joint. In this process it is the molten iron that first enters the mold, and the molten corundum slag floating on the top passes out last instead of first, as in the older teeming process. The method lends itself well to the jointing of rails already laid, and insures a sound electrical contact; it is of no use, however, for rails of which the ends are worn. The process can not well be applied to the welding of tubes, as the hot metal is liable to melt its way through the tube at first contact. It is, however, very suitable for the repair of broken shafts or rails, and is especially recommended for use on board ship, as the appliances required are exceedingly simple and convenient.

Zinc.—Among metallurgical problems mentioned by J. W. Swan in his presidential address before the Society of Chemical Industry as still awaiting satisfactory solution, one of the foremost in importance is the economical extraction of zinc from its ores. The present methods in use are very wasteful, and a practicable electrolytic method is much to be desired. The difficulties in the way of a successful electrolysis have not yet been fully overcome. Experimental operations at Hayle, in Cornwall, by the process of Cowper-Coles gave indifferent results. At Milton, in Staffordshire, fairly satisfactory success was obtained with the Swinburne-Ashcroft fusion process; and

the inventor hopes by slight modifications to make it practicable. Specimens of 99.96 per cent. purity were exhibited at Glasgow by Brunner, Mond & Co., which, according to Mr. Swan, were made electrolytically on lines suggested by the Hoelfner process.

In a process for extracting zinc from waste products patented by C. Kellner, the waste products resulting from roasting pyrites are treated with water and sulfuric acid. The bisulfid of zinc so obtained is oxidized by air into the sulfate, which is then mixed with the chlorid of an alkali or alkali earth—preferably sodium or calcium chlorid—to convert the sulfate into chlorid of zinc, with the formation of an alkali sulfate; and finally, the chlorid solution is electrolyzed to obtain zinc and chlorine, "whether or not the sulfate be caused to crystallize out of the electrolyte." The sulfate may be crystallized by electrolyzing the liquor until it is sufficiently concentrated, or by cooling or evaporating.

It appears from a consular report on the production of zinc in the United States, that while the gain in Europe during the past ten years had been just over 27 per cent., the production in the United States had increased 115 per cent. The increase in the American product since 1880 had been 437 per cent.

Copper.—It is proposed by Victor Pizet and Juan Torricio y Meza, of Lima, to establish in Peru an industry for the reduction of copper mattes into bars of pure copper by the Manhés process, or Bessemerization. The fundamental principles of this method are: (1) The production of pure copper instead of rich mattes that always contain from 30 to 40 per cent. of foreign substances; (2) the reduction of the consumption of coal to such a point that the cost of the whole process is altogether disproportionate to that of the present production of mattes containing from 50 to 70 per cent. of copper.

The improved process of H. J. Martin for manufacturing copper, yellow metal, and brass consists in utilizing the heat resulting from the operation of refining copper for the purpose of carrying out the rolling in the breaking-down and drawing-out stages, thus doing away entirely with any reheating in the furnaces usually employed for these operations in the existing mode of manufacture. The process is applicable to the manufactured alloys, such as yellow metal, normal brass, and the like, which require to be rolled hot. Practical advantages in manipulation are claimed for the process.

Alloys.—In a Cantor lecture before the British Society of Arts on the Microscopic Structure of Alloys, Dr. T. Kirke Rose first dealt with the new method of preparing specimens for examination suggested by Mr. Hannover. This method is designed to be used instead of the ordinary polishing materials, in the case of very soft or brittle specimens. It consists in pouring the molten alloy on a surface of mica, and allowing it to solidify. The smooth surface thus obtained can be examined and photographed under a magnification of 850 diameters. The various structures in alloys observed by the microscope and lantern slides of different purely metallic chemical compounds were shown in connection with the lecture, and the different modes of isolating them and proving their existence were indicated. A case was cited in which a compound in an alloy is of technical value, viz., in the antifriction alloys used for axle and shaft bearings. In all these alloys a hard constituent exists, which takes the weight of the axle, and the crystals of this hard compound are embedded in a soft matrix which

molds itself to the shape of the axle. The lecturer referred to the use of the nickel alloys in boiler-tubes, and other cases in which great strength and toughness are required, together with an almost complete absence of expansion or contraction with changing temperatures.

While alloys containing equal parts of zinc and aluminum or more zinc than aluminum have no specially valuable mechanical properties, the case, according to J. W. Richards, is different when aluminum prevails over zinc. The alloy 2 parts of aluminum to one of zinc, or 33 $\frac{1}{3}$ per cent. of zinc, has a strength according to Durand equal to that of cast iron. It melts at about 425° C., fills the joints of a mold perfectly, does not oxidize readily, and takes a fine finish. It is brittle, but resists corrosion well. A tensile strength of 40,000 pounds per square inch can be obtained. Such a casting resembles a high carbon steel, but works well under tools, and does not require lubrication. Its high specific gravity of 3.8 shows that great contraction has taken place in the formation—namely, 17 per cent.—and thus suggests a cause for its great strength. The alloy 3 parts of aluminum to 1 of zinc—that is, about 25 per cent. of zinc—is the one most generally used. It is softer than the alloy with 33 $\frac{1}{3}$ per cent. of zinc (above), has a tensile strength of 35,000 pounds, and is less brittle. Its specific gravity is 3.4, showing a contraction of 14 per cent. With alloys containing less than 25 per cent. of zinc, the strength and hardness decrease quickly. An alloy with 10 per cent. of zinc and less can be forged, rolled, and drawn.

Ferro-silicon is referred to by J. W. Swan, president of the Society of Chemical Industry, as one of the alloys now produced on a commercial scale by the electric furnace. At present the demand for it is small, and the manufacture is in excess, but it is hoped that there will be in time large use for it in the manufacture of steel to make available the improvement of quality which silicon imparts to the metal when there is not an excess of carbon, and to take advantage of its thermal energy in steel casting. At Meran, in the Tyrol, where ferro-silicon is made at a cost of £8 a ton, the raw materials used in making it are scrap-iron, quartz, and coke. The product contains 77.5 per cent. of iron and 21.5 per cent. of silicon.

For the purpose of discovering the nature of the changes that take place during the arrests that occur in the progress of the cooling of substances that have solidified from a molten condition, Messrs. C. T. Heycock and F. H. Neville took a definite alloy of copper and tin, and allowed it to cool after melting. A part of the sample was chilled while still partly fluid, at 740° C., and was found on microscopic examination to contain large primary combs, considerably richer in copper than the mother substance. Another portion was chilled at 630° C., or not less than 100 degrees below the point of solidification. It showed no difference in composition, but was apparently homogeneous. In another portion, chilled to 500° C., crystallization was found to have taken place in the solid solution, with the production of rosettes and bands of a substance rich in tin within a medium rich in copper.

A mild ferro-chromium made in the electric furnace and containing 60 per cent. of chromium, from 39 to 29 per cent. of iron and carbon reduced to 1 per cent., patented in France, is distinguished from ordinary ferro-chromium by being magnetic, tough, not scratching iron, and being capable of being drilled by steel.

Processes.—By observing the effects of different natural pressures according to differences of

elevation, it has been suggested that advantages might be gained in reduction processes by working under pressure, and notably an economy of time. By thermal calculations it is shown that if reduction be effected at a pressure of one atmosphere above the normal, the time of reduction may be shortened by one-half, the external heat applied being of course increased in correspondence with the lessening of the time, and the ore being sufficiently finely crushed to allow of the reaction being completed in the shorter period. By doubling the difference of temperature between the inside and the outside of the reduction vessel, the time of reduction may again be shortened one-half. Such a pressure furnace (working at +1 atmosphere pressure) has been tried by Bessemer. Cast steel has been made experimentally in a similar way at a Westphalian works.

The process of magnetic concentration of ores of Messrs. Ettinger & Co. is based on the fact that all substances behave differently under the influence of a strong magnetic current. The machine employed consists essentially of two parallel bar electro-magnets, one above the other, the upper one being cylindrical and the lower one either cylindrical or semicylindrical. The ore to be tested is fed in a crushed condition between the poles of the magnets by means of an adjustable inclined shoot, slightly pressed by a spring against the upper cylinder. The paramagnetic particles adhering to the cylinder are carried round by its rotary movement, and faintly magnetic particles soon reach a point where centrifugal force and gravitation overcome magnetic attraction, and consequently drop into a shoot prepared to receive them. In the meantime, the more highly magnetic particles, adhering longer to the revolving cylinder, drop into another shoot placed farther from it. The following minerals are separated in this way: magnetic ores, all iron ores, compounds of titanium, tungsten, nickel, cobalt, and manganese, oxidized and sulfid ores of copper and certain sulfids of zinc, lead and silver ores, tin ores, and compounds of bismuth. The advantages claimed for this machine are the large output, slight liability to wear and tear, and the slight expenditure of electrical force involved.

The Phoenix process of sulfid-ore treatment, described by Mr. E. A. Ashbridge before the Institute of Mining and Metallurgy, consists of a cycle of four main operations. The first is the displacement of the sulfur combined with the metals in the ore, by means of chlorin gas; this is done in a converter, to which the ore, mixed with fused zinc chlorid, is introduced at a suitable heat at the top, while the dry gas is injected from below. The chlorids of sulfur being produced only at low temperatures, the action is carried on at a heat of at least 650° C., whereby sulfur is vaporized and carried away for condensation, while fused chlorids of metals mixed with silicious gangue remain behind and are tapped. The sulfur, with which is associated a small quantity of chlorids, chiefly of iron and zinc, is washed with water to purify it. The second step is the desilverization of the residue, with the production of argentiferous lead, and the separation of the remainder of the lead from the mixed chlorids. This is done by adding zinc, which throws down the lead from the fused chlorids, or by electrolysis. The third operation is the separation of the silicious gangue (which is unacted on) from the zinc chlorid by settlement and decantation, the gangue being freed from the chlorid by washing with water or by distillation—the former being preferable. The final chlorid is purified, the wash chlorid solutions are boiled down, and the whole

of the zinc chlorid is prepared for the fourth operation of electrolysis. Hereby the zinc is recovered as metal, and the chlorin is pumped back for reuse with fresh ore in the first operation.

The older methods of manufacturing pipes by drawing, rolling, or bending over a mandrel were in time superseded by the lead-pipe process in which molten lead is placed in a heated container, and when cooled down to plasticity is forced through a die by hydraulic pressure. By this means, instead of only short lengths of pipe being made, as with the old methods, pipes of any required length are produced. In the improved press of Mr. Alexander Wylie, the container, instead of being kept hot by a fire or a ring of gas-jets, is jacketed and steam-heated. In an important adaptation of this press to the encasing of telegraph-cables, the cable passes horizontally through a case, and the covering is done continuously, rapidly, and effectively. By the extension process of Mr. Alexander Dick, all kinds of bars, from a simple round wire to complex sections which it is impossible to roll, and tubes of any section are produced by causing metal heated to plasticity to flow through a die under hydraulic pressure. This process consists in charging the hot metal into a horizontal container, at the front and rear of which is the die. Upon hydraulic pressure being applied at the rear end of the container, the plastic metal is forced through the die, issuing therefrom as bars and tubes. The quality of the metal is greatly improved in the bars thus produced. It acquires increased density and is perfectly homogeneous. Extended bars of given length yield higher results under test for tensile strength than rolled bars of the same metal, and it works better in the lathe or screwing machine at speeds twice or even three times as great as those employed with ordinary metal. Mr. Dick's process is likewise applied to copper and its alloys, but these metals are operated on at a far higher temperature.

A method has been devised by Mr. Thomas A. Edison for obtaining a more permanent phonographic record than the wonted one by means of gold plating. The wax cylinder carrying the record is revolved in a vacuum between two gold electrodes. A vacuum discharge is passed, and the gold is deposited. By electrodeposition the layer of gold is backed up with copper, and the wax is then melted off. A deposit of silver is then electrolytically laid upon the copper matrix, and as soon as the silver layer is of the required thickness the copper is dissolved off. There is thus left a silver deposit containing a thin layer of gold, and the record is, it is hoped, an exact reproduction of the original wax; but its exactness has not yet been fully tested.

The Riecken process for treating tellurid and sulfid ores is an electrochemical system for the recovery of the various metals from ores by a single operation, without resorting to filtration. The machinery consists of an open iron tank with vertical ends, inclined sides, and rounding bottom. The tank is provided with a horizontal shaft passing through stuffing-boxes at each end, also with proper beaters to agitate the contents of the vat, and with suitable gear-wheels outside of the tank for rotation. The bottom and sides of the tank are lined with removable amalgamated copper plates, and form the negative pole of the circuit, the positive pole being stationary. By means of a small force-pump a stream of mercury is caused to flow continually over these amalgamated plates, which, running down into the bottom of the vat, is drawn off through a mercury tap and again elevated by the pump,

thus maintaining a continuous circulation. This not only keeps the negative pipes perfectly bright and active, rendering the apparatus the best mechanical amalgamators, but is the essential condition which effects the precipitation of the gold in such a form that it can not be scoured off by the attrition of the moving ore. By means of this apparatus the gold, whether in coarse particles or fine, is recovered in one operation, no filter presses are required, no precipitation by zinc is necessary, and the bullion commands a high price by reason of its purity.

In the agitation process for grinding slimes, as carried on at Bland, New Mexico, the low-grade slimes are agitated with potassium cyanid for twenty-four hours, while steam and compressed air are admitted to pass into the solution through a number of perforated pipes placed along the bottom of the vat. A due proportion of lime charged into a wire bucket suspended to reach below the surface of the solution neutralizes any acid reaction of the pulp, and aids later in settling the slimes. After treatment the pulp is run from the agitating tanks into wire settling tanks placed in series, from which the overflow is made to pass through upward filtering tanks before it goes to the zinc boxes. From the settling tanks the slimes are sluiced out into decanting tanks and allowed to settle for from twelve to twenty-four hours. The other solutions, drawn off through openings in the side, are mixed with the liquors from the wire settling tanks before they pass through the filtering tanks.

Pyritic smelting is defined by H. Long as a matting blast-furnace smelting process, in which parts of the metallic sulfid are oxidized, thereby giving a more concentrated product. The degree of concentration depends mainly on the proportion of silica in the charges. As the silica increases, the matte fall decreases, as does also the smelting power, because slags, when acid, run more slowly than when basic. Thus a furnace with a charge rich in pyrites, run from a basic slag, will give much low-grade matte, and put through large quantities with little fuel. Advantages are claimed by S. E. Bretherton for this process in comparison with lead smelting in respect to the high percentage of gold and silver it saves; in that it permits a high degree of concentration in working ores with from 1 to 2 per cent. of copper; and in that it allows a larger per cent. of zinc in the charge, as well as more silicon and silicious slags.

Miscellaneous.—In his report as deputy master and comptroller of the Royal Mint, Sir William C. Roberts-Austen points out that of late years a change has gradually been effected in the metal for striking medals which are known by the general name of bronze. Until comparatively recently, such medals were invariably struck in copper, which subsequently received a superficial coating mainly consisting of an oxid of copper, and the medal was said to be "bronzed." Such a "patina" was formerly imparted to the copper medal by heating it in contact with iron. The Japanese have long employed a wet method, by the aid of which a wide range of shades of brown can be imparted to copper. The solutions are used boiling, and a variety of verdigris known as "Rokusho" and sulfate of copper are the main constituents. The Japanese, moreover, are very successful in imparting a more or less translucent but permanent coating to the copper, which in fine examples of their art reveals the crystalline structure of the metal beneath the "patina." Sir W. C. Roberts-Austen observes that in the years 1897-'98 more than

28,000 medals in commemoration of the Queen's jubilee were treated in this way, and the specimens that have been preserved in the mint show no diminution in the brilliancy of the tints which were originally imparted to them. Many European mints are following the Paris Mint in efforts to replace pure copper by copper alloyed with other metals. Analyses of coins of the reigns of Hadrian and Trajan show that the alloys contained about 87 or 88 per cent. of zinc, the remainder being made up of tin, lead, iron, and silver, with traces of arsenic and antimony. The author remarks that modern medallists are working with alloys that resemble those from which the coins mentioned were struck, so that the medallist of to-day is returning to the ideas developed in ancient Rome.

Some clearly defined idiomorphic crystals were described by E. J. Stead at the meeting of the Iron and Steel Institute in May as having been discovered in the hearth of a blast-furnace in Monmouthshire situated in a cavity of the sandstone foundation, where spiegeleisen and ferromanganese had been made. They belonged to the orthorhombic system, and are described as a carbosilicid of manganese and iron. Their composition was: Manganese, 51.75; iron, 35.76; silicon, 3.62; carbon, 3.71; oxygen, etc., 5.16.

In a paper on the presence of calcium in high-grade ferro-silicon, read at the meeting of the Iron and Steel Institute, Mr. G. Watson Gray pointed out that high-grade ferro-alloys, especially those produced in the electric furnace, had of late years presented many interesting points to the metallurgical chemist, and some troublesome ones to the analyst. Having recently come across ferro-silicon containing calcium, and not having noticed the occurrence of that element in a ferro-alloy recorded before, he submitted his experiences in the matter, so that the presence of calcium might be noted by users, and its good or ill effects on steel observed.

Mackey's amalgam press, a piston press worked by steam, air, or water, removes in a better way than is possible by ordinary means the surplus quicksilver from amalgam, thus enriching the amalgam and reducing the amount to be retorted.

Electrolytic deposits of chromium obtained by Neumann are bright gray and lustrous, but have a tendency to peel off, due to films of oxid. They are hard and brittle and very pure, containing only from 0.1 to 0.2 per cent. of iron, and, like ordinary chromium, occur in the active and passive states.

Osmium, which has the highest melting-point of all the metals, has been reduced by Auer von Welsbach to a filamentous condition, when its qualities as a conductor were found to be such that it could be applied in the place of carbon for incandescent electric lamps. It can withstand a higher temperature than carbon, and in practice affords a higher illuminating duty and is more durable.

A gift of \$32,000 has been made by Mr. Andrew Carnegie to the British Iron and Steel Institute, the income of which is to be applied to the awarding annually of one or more research scholarships of such value as may appear expedient to the council of the institute. The object of the scheme of scholarships is to enable those students who have passed through a college course, and also who have been trained in industrial establishments, to conduct independent researches in the metallurgy of iron and steel and allied subjects, with the view of aiding its advance or its application to industry.

METHODISTS. I. Methodist Episcopal Church.—The Conference organization of this Church consists of 127 annual conferences, 12 mission conferences, and 14 missions. The official statistics for the year from Dec. 1, 1900, to Nov. 30, 1901, furnish the following summary: Number of ministers in full connection and on trial, 17,879; of local preachers, 14,092; of lay members and probationers, 2,948,137; of Sunday-schools, 32,126, with 349,277 officers and teachers and 2,708,469 pupils; of churches, 27,574, having a probable value of \$120,616,850; of parsonages, 11,474, valued at \$19,592,025.

The valuation of the Book Concern in 1901 gives, for the New York plant, \$1,656,201; for the Western plant, \$1,339,906. Besides the main establishments in New York and Cincinnati, there are four depositories connected with the New York house and two with the Cincinnati house. The total amount of sales reported for the four years ending in 1900 was \$7,858,034. Thirty-six official periodicals were published, in the English, German, and Swedish languages.

Church Extension.—The General Committee of Church Extension met at Columbus, Ohio, Nov. 6. The receipts for the year had been \$229,298 on the General fund and \$324,185 on the Loan and Annuity funds, the total, \$553,483, showing a net increase for the year of \$43,649. The entire capital of the Loan fund, \$1,189,571, together with the amount which had been returned by borrowing churches, gave, as the aggregate available for use by loans to date, \$2,744,845. Three hundred and forty-one churches had been aided during the year, making the whole number aided from the beginning 12,018. The total net receipts since 1865 had been \$7,371,711. The work of aiding frontier churches by supplementing special gifts of \$250 had been largely extended, and by this means about 700 churches had been made possible. The operations of the society had been extended to Porto Rico and the Philippine Islands. In fulfillment of a call for \$1,000,000 for Twentieth Century thank-offerings, the board had received \$235,832 for the erection of new churches, and \$362,776 for the payment of debts upon churches. The sum of \$345,375 was asked from the conferences for the ensuing year.

Board of Education.—The Board of Education had received \$129,137, and had aided 1,668 students, with loans amounting to \$80,108. From its institution in 1866 to July 1, 1901, it had aided 11,036 students with loans aggregating \$1,075,938. The 194 educational institutions of different kinds and grades returned in all 2,914 professors and teachers, 46,461 students, \$17,050,175 of property and \$16,165,654 of endowments, \$11,950,442 of which were productive.

Sunday-School Union.—The income of the Sunday-School Union for 1900 was \$21,727, and the expenditures were \$19,896, of which about \$4,545 were to missions in foreign countries.

Tract Society.—The Tract Society received for the year ending Nov. 30, 1900, \$19,522, and expended \$18,923. It circulates tracts throughout the United States and in the foreign mission fields, having a list of 1,400 tracts in 14 languages and dialects. It also publishes a weekly periodical—Good Tidings. Four tracts were added to its list in 1900.

Epworth League.—The enrolment of the Epworth League for 1901 included 21,000 regular and 7,600 junior chapters, with 1,900,000 members. The General Convention was held in San Francisco, Cal., and was attended by more than 20,000 delegates. Resolutions were adopted recording a deepening interest among the members and ap-

proving of measures which had been devised by the direction for a "forward movement" of great campaign on behalf of missions and other enterprises, and of plans for Epworth League extension providing for the systematic training of the young people in Christian work.

Freedman's Aid Society. The thirty-fifth annual meeting of the General Committee of the Freedman's Aid and Southern Education Society was held in Allegheny, Pa., Nov. 11 and 12. The treasurer reported that the entire receipts had been \$379,496, and that the amount derived from conference collections, \$110,646, was nearly \$2,500 in advance of that contributed in the previous year. The debt of \$154,479 standing at the close of the preceding year had been decreased by \$19,000, in addition to which \$23,960 had been received on the annuity plan and invested for the payment of the debt; and nearly \$12,000 more were available in subscriptions, bequests, and annuities, all of which would suffice to bring the debt under \$100,000.

The schools had been attended by 10,297 pupils. Nearly 3,000 students had received training in the industrial departments. The students had paid on account of tuition, board, room rent, and incidentals, \$113,237 toward their education.

Unusually large sums had been collected for new buildings and improvements. Thirteen important buildings were being completed, four of which would be available for school work by Jan. 1.

General Missionary Society.—The annual meeting of the General Missionary Committee was held in Pittsburg, Pa., Nov. 13 to 19. The receipts for the year were shown by the treasurer's report to have been \$1,233,186, and the expenditures for all purposes had been \$1,279,930. In addition to the regular income, \$111,705 had been received in special gifts and \$14,160, the addition of which would make the total amount received \$1,359,051, showing an increase for the year of \$39,123.

Appropriations were made for the coming year on the basis of the amount of the regular contributions of the past year (\$1,233,186), as follows: For foreign missions, in Europe, South America, Mexico, Africa, China, Japan, Korea, India, and Malaysia, \$578,232; for missions in the United States, including conference missions, the mountain region, the Pacific coast, white work in the South, colored work, mostly in the South, non-English speaking peoples (12 nationalities), and special appropriations for cities, \$436,210; miscellaneous appropriations (including \$46,744 for debt), \$218,744. A resolution was adopted, reciting that whereas open doors were inviting missionary labor in all parts of the world as never before; and whereas, notwithstanding increased collections from the churches, and by reason of the indebtedness accumulating from large successes, instead of embracing these opportunities, it had been necessary to reduce all appropriations about 8 per cent. below the inadequate appropriations made for the previous year, and the committee had been unable for years, for lack of funds, to make appropriations for the improvement of mission property in foreign countries or for the removal of debts from it; an increase of missionary contributions be asked from the Church, so that at least \$1,500,000 could be secured from collections only in 1892. The Board of Managers was authorized to employ such additional secretaries as might be necessary for the furtherance of this appeal, and was advised to constitute a special committee, to be called the Open Door Emergency Committee, to have such powers and functions in relation to increasing the missionary collections as it might from time to time prescribe.

Besides the domestic, South American, and European missions, the missions to heathen lands included 536 missionaries, 1,599 native preachers, 52,791 members, and 91,804 probationers.

Woman's Societies.—The Woman's Home Missionary Society held its twentieth annual meeting in the city of New York, Nov. 6. The report of the treasurer showed that the receipts for the year had been \$234,246. It maintained educational and industrial enterprises in the South, in missions among foreign populations, and in Utah and Alaska, deaconesses training-schools and rest-houses, and 2 city mission houses. Three hundred and fifty deaconesses were at work.

The thirty-second annual meeting of the Executive Committee of the Woman's Foreign Missionary Society was held in Philadelphia, Pa., Oct. 30 to Nov. 6. The total receipts for the year had been \$426,000, being an advance of \$12,000 over the year. The society had pledged itself three years before to raise \$200,000 as a Twentieth Century offering, to be applied to the erection of buildings, the purchase of land, and endowments. The sum of \$226,260 had been raised on this pledge, besides which the Folts Mission Institute, at Herkimer, N. Y., had been presented to the society, with an endowment making the whole value of the gift \$175,000, and the total amount raised on Twentieth Century account \$401,260. A room in the sanitarium at Clifton Springs, N. Y., had been presented to the society as a memorial of the late Dr. Henry Foster. The society's agents were laboring in Japan, Korea, China, Malaysia, India, Burma, Bulgaria, Italy, South America, Mexico, the Philippine Islands, and the Loochoo Islands. Twenty-two missionaries had been sent out during the year, 17 had come home for rest, 25 had gone back to the field after rest, and 21 new missionaries had been or were accepted. Two hundred and forty-three missionaries were now in service.

II. Methodist Episcopal Church, South.—The Year-Book of this Church for 1901 gives statistics, of which the following is a summary: Number of bishops, 11; of annual conferences, 48; of traveling preachers, 6,227; of local preachers, 5,151; of members, 1,470,520; of Sunday-schools, 13,903, with 101,399 officers and teachers and 853,751 pupils; of Epworth Leagues, 3,399, with 120,236 members; of educational institutions, 77, with 11,983 students, and buildings and endowments valued at \$7,522,583. Receipts for benevolent enterprises: Of the Missionary Society, \$346,079; of the Woman's Foreign Missionary Society, \$82,719; of the Church Extension Society, \$110,000. The publishing house returned its assets at \$947,686. Four connectional periodicals and 9 Sunday-school periodicals were published.

The fifty-fifth annual meeting of the Board of Missions was held in Nashville, Tenn., June 13-15. The report showed an increase of \$19,330 in the collections of the year over those of the preceding year, besides which \$11,707 had been contributed for famine relief in India. Several bequests had been received for special objects and enterprises under the care of the board. It was represented that an increasing interest in missionary work was manifested in the Church.

The missions in China, Japan, Brazil, Mexico, Korea, and Cuba returned for the year 1900-1901 139 missionaries, including wives, 257 native helpers, preachers, etc., 10,959 members, showing an increase for the year of 856; 10,346 members of Sunday-schools; 2,645 members of Epworth Leagues; and 16 self-supporting churches, with a total valuation of property of \$497,308.

The missions of the Woman's Foreign Mission-

ary Society in the same countries, with the addition of the Indian Territory, returned 52 missionaries, 164 teachers and native helpers, 4,736 pupils in schools, of whom 445 were Christians, 65 Bible women, and \$400,500 of property. The valuation of property includes that of the Scarritt Bible and Training School, Kansas City, Mo., \$75,000.

The annual meeting of the Woman's Home Mission Board was held in St. Louis, Mo., May 3. Reports were presented showing that 112 parsonages had been helped by the board and the conference societies during the year, at a cost of nearly \$12,000. Appropriations were made for 3 Cuban schools—at Key West, West Tampa, and Ybor City—of \$5,314, providing for a superintendent and 12 missionaries and teachers; of \$1,800 for night-schools among the Chinese and Japanese at 5 cities on the Pacific coast; of \$3,600 for rescue work at Dallas, Texas; of \$300 to open a night-school in the mining region of the Holsten Conference; and of “\$2,000 and fees” to the Sue Bennett Memorial School, Louisville, Ky. City mission work was carried on in 12 cities. In this work the local city mission boards are systematically aided by the appropriation to each of one-tenth as much money as it raised for local work during the preceding year. Steps were taken toward placing a teacher of home mission work in the Scarritt Bible and Training School, toward which \$750 were contingently appropriated. Toward \$25,000 called for for a Twentieth Century offering more than \$21,000 had been paid in cash. The sum was divided in appropriations among the different objects of Cuban work, mountain work, rescue work, and Pacific work.

The annual meeting of the Woman's Board of Foreign Missions was held in Asheville, N. C., in June. The contributions for the year had been \$82,719 for the regular work and \$40,000 special for the Twentieth Century fund. The regular work of the board included 29 mission stations, 55 missionaries, 164 teachers and native helpers, 65 Bible women, 18 boarding-schools, and 62 day-schools, with 4,736 pupils, 445 of whom were Christians, 19 buildings owned by the board and valued at \$336,500, 2 hospitals, and 2 Bible colleges. The board further owns in the United States the Scarritt Bible and Training School at Kansas City, Mo.

A general conference of missions was held in New Orleans, La., April 24 to 30, and was attended by about 2,000 delegates and visitors, who represented every part of the Church. Each of the several days of the conference was devoted to the discussion of a designated group of topics. The meetings were opened with an address on The Purpose of the Conference, by the Rev. James Atkins, D. D., after which the subject of the first day's sessions, The Spiritual Basis of Missions, was discussed in a number of addresses presenting various aspects and relations of it. The second day was given to Foreign Missions, when Bishop E. R. Hendrix spoke on The Adequacy of Christianity to meet the World's Need; the Rev. Dr. J. H. Pritchett, on Methodism and Modern Missions; the Rev. Dr. Brown, on The Aim and Scope of Foreign Missions; the Rev. J. W. Tarboux, of Brazil, on Evangelistic Work; the Rev. W. E. Edwards, D. D., on the Missionary Leadership of the Pastor; the Rev. Dr. J. F. Goucher, on Missions and Education; the Rev. Dr. Young J. Allen, of China, on The Missionary Outlook in the Far East; and the Rev. Dr. W. H. Park, on Medical Missions. The subject on the third day was Home Missions. The addresses were on Present Policy and Administration, by the Rev. Dr. D. C. Kelley; Problems of Self-Support and Adminis-

tration, by the Rev. Horace Bishop, D. D.; Trained Workers to Supplement our Regular Church Agencies in City Missions, by the Rev. Dr. W. H. La Prade; Growth and Character of City Population in the South, by Prof. G. W. Dyer; Need of Trained Workers, by the Rev. Dr. J. C. Morris; and other papers. A discussion of the negro question at the afternoon session was marked by addresses on Are we Meeting our Responsibilities to the Negroes of the South? by the Rev. R. J. Bingham; The Medical Education of the Negro, by G. W. Hubbard, D. D.; and The Industrial Education of the Negro, by Prof. Booker T. Washington, of Tuskegee Industrial Institute. The fourth day was Woman's Day. The addresses included The Aim and Scope of Woman's Work in Foreign Missions, by Mrs. S. C. Truehart; Woman's Educational Work, by Miss M. L. Gibson; Bible Women's Work, by Mrs. M. I. Lambuth; Medical Work, by Mrs. A. W. Feam, M. D., of Soochow, China; The Work of the Home Mission Society, by Miss Belle Bennett; The Literature of Home Missions, by Mrs. J. D. Hammond; Our Foreign and Factory Population, by Mrs. Florence Kelly; English and American Social Settlements, by Miss Jane Addams, of Hull House Settlement, Chicago, Ill.; and Woman's Work at Home and Abroad, by Bishop J. M. Thoburn, of the Methodist Episcopal Church. The fifth day was Young People's Day. Addresses were made on The Young People and the Church of the Future, by the Rev. Dr. James Atkins; Missionary Training and Literature for our Young People, by Miss Belle M. Brain; The Study of Missions by College Students, by the Rev. A. C. Millar, D. D., and the Rev. F. P. Turner; and topics relating to the Epworth League and Sunday-schools.

At one of the evening meetings a collection was taken for Soochow University, China, and more than \$50,000 were subscribed. The sum of \$3,500 was also raised as a "Laura Haygood Memorial fund."

III. African Methodist Episcopal Church.—The seventeenth annual meeting of the Board of Education was held in Memphis, Tenn., May 8, Bishop Benjamin F. Lee presiding. The report of the secretary showed that the year's collections had amounted to \$115,004, of which \$28,958 were derived from the collections of endowment day and the board's share (8 per cent.) of the "dollar money," and \$86,046 from collections by schools. The total amount of the collections for the sixteen years since the organization of the educational department was given at \$1,600,000. The meeting was addressed by Gen. George B. Gordon, superintendent of schools for Greater Memphis.

The books of the Sunday-school Union for 1900 were balanced at \$22,901 receipts and expenditures. A debt against the institution of \$5,392 had been reduced to \$1,500.

The Woman's Mite Society received during the year \$2,190, besides \$33 contributed for a school-house in South Africa, and expended \$1,347. Of the sum received, it sent \$275 quarterly, or \$1,100 for the year, to the missionaries in Sierra Leone, Africa.

The remains of Richard Allen, the founder and first bishop of this Church, who died March 24, 1831, which had lain since his death on the site in Philadelphia, Pa., where the society was organized, were reinterred, April 24, with appropriate ceremonies, in a white marble tomb specially constructed for their reception, in the new Bethel Church, standing on the same spot.

IV. African Methodist Episcopal Zion Church.—The general statistician of this Church,

the Rev. Dr. J. H. Anderson, published, July 4, 1901, the following summary of the financial activities from May 31, 1899, to May 31, 1900: Raised for the General fund, \$3,370; for the Education department, \$73,380; for the publication department, \$1,950; for the Varick Christian Endeavor department, general and local, \$5,197; for the Memorial Building, \$1,306; for the Woman's Home and Foreign Mission Societies, \$2,151; for the Book Concern (now absorbed in the publication department), \$1,214; or centennial offerings, \$7,869; for local benevolences, \$50,861; for pastors' salaries, \$3,177,000; for presiding elders' salaries, \$70,968; for current expenses, \$914,800; for purchasing new property and paying church debts and for repairs and for parsonages, \$3,763,996; for general missionary purposes, \$3,286; for church extension, \$2,103; for expenses of the General Conference (1900), including fares of delegates, \$3,500; miscellaneous, \$8,900; total contributions and receipts, \$8,210,286.

A Woman's Home and Foreign Missionary Society of this Church has been formed, and held its first convention during the summer at Atlantic City, N. J.

V. Colored Methodist Episcopal Church.—The General Board met at Liberty Station, Tenn., May 1, Bishop J. A. Beebe presiding. The publishing agent reported that the Christian Index, the official journal of the Church, was yielding a handsome profit after paying its own way; that the sale of Sunday-school literature had increased; and that the value of the publishing house, including machinery and stock, was more than \$20,000. The establishment was doing more general job work for the Church than ever before. An additional parcel of land had been bought for it, to meet the demands of increasing business. The general financial report showed that \$26,923 had been received for the general funds, and \$19,350 for the Twentieth Century fund.

VI. Methodist Protestant Church.—The statistics of this Church for 1901 give it 647 ministers, 1,135 unstationed ministers and preachers, 184,097 members, 2,401 churches, 534 parsonages, church property valued at \$4,754,721, 2,034 Sunday-schools, with 16,680 officers and teachers and 126,031 pupils, and 753 Christian Endeavor Societies, with 27,800 members. The foreign mission, in Japan, returned 3 central stations, 26 circuits, stations, and outlying missions, 21 missionaries, 32 native preachers and workers, 1 college, 1 theological seminary, and 4 schools. The year's receipts of the Board of Home Missions were returned at its annual meeting, May 8, as having been \$8,578. Out of the receipts, \$5,212 had been paid directly into the work of supporting missionaries and aiding in the maintenance of mission churches. All the missionaries had been paid in full, and no outstanding indebtedness remained due.

VII. American Wesleyan Church.—The following summary of the statistics of the American Wesleyan Church, representing all the conferences but three (Minnesota, Tennessee, and Willamette), was published in the American Wesleyan for Jan. 23, 1901: Whole number of elders on the conference rolls, 393; of superannuated ministers, 33; of quarterly conference licentiates, 304; amount contributed for preaching, \$61,093; for missionary enterprises, \$10,369; for educational purposes, \$1,694; for support of Sunday-schools, \$5,629; for the support of evangelists, \$8,639; on the "dollar plan," \$2,749; for superannuated ministers, \$861; for incidental expenses, \$8,626; for building and repairs, \$10,163; for other benevolent objects, \$3,815; number of members, 15,653; of Sunday-

schools, 471, with 465 superintendents, 1,948 teachers, and 17,290 pupils.

The five connexional boards met in their annual session at Syracuse, N. Y., June 11. The treasurer reported that the receipts of the societies for the year had been: Publishing Association, \$17,750; Missionary Society, \$2,929 for home missions and \$6,504 for foreign missions; Wesleyan Educational Society, \$4,833; Wesleyan Methodist Connection, \$12,409. The assets of the same societies were: Publishing Association, \$68,984; home missions, \$7,088; foreign missions, \$9,411; Educational Society, \$30,618; Wesleyan Methodist Connection, \$41,411; total "corrected," \$152,513; gain for the year, \$5,208. The Educational Society had closed the year out of debt and with a small surplus. Propositions were received for missionary work in Cuba, and the Executive Board were instructed to take the subject under advisement. An extension of the missionary work in Africa to the Limbah tribe was decided upon, and steps were taken toward sending out new missionaries.

VIII. Free Methodist Church.—The statistical tables published in connection with the combined annual minutes of all the conferences of this Church for 1901 give the following footings: Number of ministers, 891; of members, 25,678; of probationers, 3,180; of Sunday-schools, 1,095, with 36,476 pupils; of churches, 1,034, valued at \$1,115,340; of parsonages, 497, valued at \$332,435. Amount raised for foreign missions, \$11,032, of which \$8,459 were contributed by the Woman's Societies. The foreign mission fields returned 173 members and probationers. Amount raised for education, \$488; for ministerial support, \$255,327. Most of these numbers show an increase from the previous year. At the meeting of the Executive Committee of the Church, held in October, a committee appointed to confer with officers of labor organizations to make some arrangement whereby laboring men members of the Free Methodist Church might work unmolested in union shops without taking any oath or obligation in conflict with the discipline of the Church, reported that they had done as directed without success, and advised that this was no time to compromise or capitulate; and that both preachers and laymen, at whatever cost, should stand by the denominational principles as never before.

IX. Methodist Church in Canada.—The Methodist Church in Canada, with 11 conferences, including that of Japan and the China mission, returned for 1901, 1,787 ordained ministers, 229 probationers, 2,264 local preachers, 289,162 members, 3,419 Sunday-schools, with 32,642 officers and teachers and 266,423 pupils, 1,825 Epworth Leagues, with 70,988 members, 4,334 churches and places of worship, 1,133 parsonages, 19 colleges and educational institutions, and \$15,397,634 of church property. Book and publishing houses are established at Toronto, Halifax, and Montreal. The periodicals are 2 weekly journals, one magazine, Sunday-school publications, and the organ of the Epworth League. The income of the Missionary Society for the year 1900-1901 was \$270,312. It has 530 home and foreign mission stations, 496 missionaries, 95 assistants, 49 teachers, and 17 interpreters, with 47,236 members.

X. Wesleyan Methodist Church (Great Britain).—The statistical reports of this Church for 1901 give it, in Great Britain and Ireland, 2,492 ministers, 20,646 lay preachers, 520,354 church-members and probationers, 7,668 Sunday-schools, with 133,207 officers and teachers and 990,523 pupils, and 8,976 churches. The foreign missions returned 364 ministers, 1,999 lay preachers, 62,370

members, 1,231 Sunday-schools, with 4,103 officers and teachers and 66,974 pupils, and 2,404 churches. Of the affiliated conferences, the French had 37 ministers, 93 lay preachers, 1,702 church-members, 2,667 pupils in Sunday-schools, and 143 churches; South African Conference, 214 ministers, 3,676 lay preachers, 90,124 members, 38,118 Sunday scholars, and 826 churches; and the West Indian Conference, 92 ministers, 916 local preachers, 45,936 members, 28,750 Sunday scholars, and 431 churches. The report of the Metropolitan Chapel fund, presented at the annual meeting, May 2, showed that during the year 8 chapels had been opened to which grants had been made. Grants had also been sanctioned for improvements and extensions at Deptford and to the Leysian Mission, which proposed to expend £105,000.

The sixty-first annual report of the Wesleyan Methodist Committee on Education, issued in March, 1901, gives the whole number of scholars on the books as 160,787, with an average attendance of 129,905. The actual income of the schools, including Government grants, was £284,991, showing an increase of £12,833. The total expenditure had been £295,781, showing an increase of £12,491.

The Rev. Dr. Waller, secretary of the Education Committee, presenting his statement at the annual meeting, March 27, gave a historical survey of the contributions Methodism had made, by its training-colleges and elementary schools, to the advance made in national education during the reign of Queen Victoria. He claimed that as Wesleyans they had put £1,225,000 into their schools, the annual income from which now exceeded £250,000. They were expecting to receive £200,000 from the Twentieth Century fund for educational work, and a part of this would go toward providing an additional training-college somewhere in the north of England.

The Chapel Committee reported to the Conference that sanction had been given to the erection of 91 chapels, costing £196,276; of 29 ministers' houses, costing £25,764; of 20 school-rooms, costing £11,574; and to 131 alterations and enlargements, costing £73,714. The proposed new chapels would provide additional accommodation for 14,787 sittings, some of the new buildings superseding former buildings; and the new chapels already completed provided 11,453 new sittings.

The annual meeting of the Wesleyan Missionary Society was held in London, April 29. Mr. James E. Vanner presided. The income of the year from all sources on current account had been £135,494, and the expenditure £136,466. A statement of the work of the society in all parts of the world, submitted by the general secretaries, represented that since the transference of the German missions to the Methodist Episcopal Church in the United States, the operations of the society in Europe had been among the Latin races, where a spirit of independence in religious thought seemed to be growing. Official visits paid by the Rev. W. H. Findlay to the west coast of Africa and Dr. Waller to the Bahamas had been attended by beneficial results. In the Transvaal, the society's agents were returning as fast as the military authorities permitted them. In China the agents of the society had thus far been spared the fate which had befallen those of several of its sister societies, with which the report expressed sympathy.

The Conference met in its one hundred and fifty-eighth annual session at Newcastle-on-Tyne, July 23, the representative session for the first time meeting, under the new rule, before the pastoral

session. The Rev. Theophilus Davison was chosen president, and delivered at his induction an address on the relation of the Church and the world at the present time, especially the position of Methodism at the opening of the new century in relation to that strong current of secular thought and feeling which was mightily moving the generation. Steady progress was reported to have been made during the year toward the completion of the Twentieth Century fund of 1,000,000 guineas. There now stood to the credit of the fund £657,000, an increase of £354,000 on the receipts reported at the previous Conference. Neither circuit nor connectional funds had suffered during the progress of the fund, but had rather prospered. The committee were of the opinion that after making adequate allowance for failures to fulfil promises, the addition of 100,000 guineas to what was already subscribed would carry the fund to a triumphant issue, and it would be possible to hand over to the various objects the sums allocated. The Conference directed that renewed efforts should be made in every circuit to secure the speedy payment of existing promises, and obtain additional ones, and that except a public collection in all chapels and schools, appeals for subscriptions to the fund should terminate at the end of the year. The Foreign Missions Committee reported that the income for 1900 had been £136,466, and that a balance of £972 was to be carried forward to the account for 1901. The importance of the secretary in charge visiting the South African missions was urged. The Conference was visited by a deputation from the Northern Christian Union, an association of the various Christian churches for closer union which was formed during the meeting of the Church Congress in Newcastle in 1900. The Bishop of Newcastle, who was not able to attend with the deputation, sent a letter of greeting. A message of sympathy in his illness was sent to the Bishop of Durham. Its receipt was acknowledged on behalf of the bishop, who, it was said, had been much touched and cheered by it; and on the death of the bishop a deputation was appointed, by agreement with his friends, to attend his funeral. A minute was adopted to the effect that the most strenuous opposition should be offered to any change in the declaration against Roman Catholicism in the coronation oath which would weaken the guarantees of the Protestant succession. The Conference declared its disapproval of any policy which would tend to weaken the direct popular control of primary education, or to imperil the work of the school board. The question of establishing certain or all Wesleyan proprietary schools on a more strictly connectional basis was referred to the Education Committee. A misunderstanding having occurred with reference to some Primitive Methodist students attending the Wesleyan training-colleges, the Conference resolved unanimously that after provision had been made in the colleges for Wesleyan candidates, members of other Methodist churches might be properly welcomed on condition that they were prepared to attend the appointed religious services connected with the institutions, with the distinct understanding that their own denominational relations should not be compromised. A report on open-air preaching recommended that the circuits arrange, wherever practicable, for the more efficient carrying on of that branch of church work, and that increased attention be given to the subject in the ministerial colleges. While the educational standard of candidates for ministerial training was considered in the representative conference, and the committee on the

subject was reappointed, a resolution was unanimously passed in the pastoral session that, "while recognizing that only those who are called by God can rightly and truly discharge the office of Christian ministry, at the same time the Conference is convinced of the extreme importance of securing candidates of higher intellectual and educational fitness," and the subject was referred to a special committee. Attention was called in both sessions to the serious character of the questions suggested by a decrease in the number of pupils in Sunday-schools. The report of the Committee on Baptized Children was remanded to the synods and the committee was enlarged. The conference decided that the new hymn-book be constructed as a unity to cover the whole ground of Wesleyan Methodist worship, doctrine, and experience, and that its title be simply *The Methodist Hymn-Book*. A Hymn-Book Selection Committee was provided for to consist of ministers and laymen. Some other Methodist denominations having expressed an interest in the work, places on the committee were provided for their representatives, and a general invitation was given to other Methodists to cooperate.

XI. Primitive Methodist Church.—The statistical reports of this connection, presented to the Conference in June, showed that it had 1,100 ministers and 198,874 members, 59,929 teachers and 460,783 pupils in Sunday-schools, and 4,575 chapels providing sittings for 1,042,335 hearers and valued at more than £4,000,000. The profits of the book-room had amounted to £5,057, of which £3,500 were devoted to the Superannuated Ministers' Widows' and Orphans' fund. The Connectional fund returned an income of £7,285. An increase of 19 Sunday-schools was reported, with 131 pupils. The contributions of the Sunday-schools amounted to £70,544. The Bible and Prayer Union returned 1,354 branches and 58,906 members. Gains had been made of 201 Christian Endeavor Societies and 5,405 members, the present number of societies being 1,429. The Chapel Aid Association and the General Chapel fund reported progress in the reduction of chapel debts. The Chapel Loan fund had increased to more than £12,000. The Church Extension fund had completed the first year of its history with an income of £4,627, and had rendered help in new projects involving an outlay of £65,000. The Superannuated Ministers' Widows' and Orphans' fund maintained 310 annuitants and 4 orphans. Reports were made of Manchester College, of the examination of ministerial candidates, and of the literary institutions.

The annual meeting of the Primitive Methodist Missionary Society was held in London, May 20 and 21. Owing to a change in the date of audit, the reports were for nine months. The income of the General fund during that period had been £8,657, and the outgo £8,433. The total receipts of the African funds had been £8,214, including the former balance, and the expenditure had been £3,425. An increase of 129 members was returned in the home mission stations. The foreign stations were in Africa—4 on the island of Fernando Po, 2 in the Niger Protectorate, 1 in Cape Colony, and 3 in Central Africa. All showed progress. The mission at Aliwal North was recovering from the effects of the war.

The eighty-second Primitive Methodist Conference met at Sheffield, June 12. The Rev. H. B. Kendall was chosen president. A committee was appointed to prepare for the consideration of the next conference a plan for a corporation to hold connectional properties that do not come within the provisions of the Chapel Model Deed. Legal

difficulties having arisen in Australia respecting the transfer of properties in consequence of Methodist union in that country, a committee was appointed with plenary powers to settle the question. Resolutions were passed declaring the education bill before Parliament mischievous, demanding public control for all schools supported by public funds; insisting that all branches of education should be under the control of public bodies elected for that purpose; and demanding that training-colleges should be freed from sectarian tests. It was decided that ministerial invitations can not be given more than twelve months previous to the Conference at which they will come up for ratification. The question of setting apart ministers as connectional missionaries was referred to a committee for consideration.

XII. Methodist New Connection.—The one hundred and fifth Conference of the Methodist New Connection met at Hanley, June 12. The Rev. G. T. Candlin was chosen president. A memorial asking that more time be given to the purely spiritual aspects of the Christian life and work of the Connection was answered by a provision of devotional addresses at the opening exercises of part of the morning sessions. Progress was reported in raising the Extension fund of £10,000 which the Conference had undertaken to secure, £4,690 having been promised and partly paid. In order to expedite contributions the Conference resolved to send special deputations to canvass all the circuits. A report was made of negotiations with the Wesleyan Book Committee, respecting the preparation of a common hymnal for all the Methodist Churches. The college for the training of ministers and the Worn-out Ministers' and Widows' Society were subjects of amendatory legislation. A resolution with reference to the South African War included a passage urging the people of the Connection "to watch and guard against the military spirit, and to labor more strenuously than ever for the time when disputes between nations shall be determined without recourse to arms, by arbitration or other pacific measures."

XIII. United Methodist Free Churches.—The following is the summary of the statistics of these churches as reported to the Annual Assembly at Redruth in July: In the home districts—number of ministers, 356; of local preachers, 3,022; of leaders, 2,913; of members, 72,568, with 6,474 on trial; of chapels, 1,264, and 62 preaching rooms; of Sunday-schools, 1,227, with 23,665 teachers and 185,448 pupils. The foreign stations returned 49 missionaries and 10,555 members, making the total membership 83,123. The total cost of chapels, schools, ministers' houses, etc., was £2,248,416, and the liabilities were about one-sixth of the original cost. The churches provided sitting accommodations for 381,872 persons, and the total attendance at the services March 24, 1901, was 264,353.

The Annual Assembly met at Redruth, July 9. The Rev. David Brook was chosen president. Reports were made of the Chapel Relief fund, the income of which had been £798, while grants of £375 had been made and of £545 promised conditionally; the Benevolent and Superannuation fund, receipts £9,270 and expenditures about the same; the book-room, which had realized a profit of £360; the Fire Insurance Association, which was continuing to make steady progress; the Loan fund, which had a capital of £13,810, £10,981 of which were out on loan; and home and foreign missions, the income for which had been £15,747, and which returned a balance in hand of £738. The report of the Twentieth Century

fund showed that the 100,000 guineas which had been aimed at had been exceeded, the total sum of £109,829 having been promised, and £43,828 paid in. Of this total the foreign mission stations had contributed 1,476 guineas. Of the total amount received £19,305 had been paid to local objects and £2,000 to the London Chapel Extension fund. A request from one of the circuits for permission, in case they should fail to find an acceptable minister in the ranks of Free Methodism, to choose one from the Congregational, Baptist, or Presbyterian denominations, gave rise to discussion. It was opposed as not being in accord with the connectional principles, and because to grant it would establish a dangerous precedent. It being shown that the original compact of union made it incumbent that a Free Methodist minister should be appointed, the Conference decided to adhere to this rule. A favorable report was made of the Young People's Societies. Thirty sisters were returned as connected with the Deaconesses' Home.

The annual meeting for the missions was held in London, April 23, Alderman Hart, of Birmingham, presiding. The report represented that the Mendi Mission in West Africa had been partly reestablished. In China the lives of the missionaries had been preserved. A hospital and a church had been erected at Ning-po, and the membership had increased considerably at Ning-po and Wen-Chau. At home only 5,000 of the 100,000 guineas aimed at by the Twentieth Century fund had still to be raised. The minimum salary of the ministers had been increased from £100 to £110. The church-membership at home was now 72,085, with 1,968 juniors and 4,639 on probation; and abroad it was 10,889 (3,194 being in Africa, 3,217 in Jamaica, and 1,978 in Australia), with 397 juniors and 4,054 on probation. A small net decrease of members was met by about an equal increase of probationers. The missionary income had been £16,265, besides £3,833 which had been raised and expended abroad, but a deficit of £1,283 remained.

XIV. Wesleyan Reform Union.—The fifty-third annual Conference in connection with the Methodist Reform Union met in Bradford, Aug. 3. The Rev. William Clough was chosen president. The statistical report showed an increase of 185 church-members, with 768 on trial, and a total of 7,049 members. An increase of 423 appeared also in the number of Sunday-school pupils. The treasurer of the Jubilee fund reported that £1,500 had been raised toward that object, and it was decided to keep the fund open till £2,000 were reached. The committee on the new hymnal, after having been engaged for three years in preparing a book, had their work so well advanced that tenders had been asked for the printing of it, when it was found that a desire long held by the union for a joint or united hymnal for Methodists generally had come within the bounds of possibility, the Conference having been invited to appoint a representative to act with the Wesleyan Hymn-Book Committee in the compilation of such a book. This was agreed to.

XV. Bible Christian Church.—The Bible Christian Conference met at Plymouth, July 31. The Rev. John Luke was chosen president. The report of the New Century fund showed that £20,125 had been promised on its account, and £13,366 paid. A scheme for the better education of ministerial candidates which was approved by the Conference comprises the taking of a house near some university or college, at the classes of which students may attend, with the appointment of a suitable minister to reside with the students and direct their studies, acting especially as a

theological tutor. Important amendments were made to the system of connexional finance. The missionary report showed an increase in membership, while the money receipts, £5,110, were nearly £200 less than in the previous year. The debt had increased, and now stood at £1,827. The book steward's report showed a reduced profit.

XVI. Independent Methodist Churches.—The statistics of these churches in England give them 146 chapels, 7 missions, 8,377 members, 372 ministers, 144 Sunday-schools with 26,194 pupils and 2,905 teachers and officers, and church property valued at £118,177, subject to debts of £36,768. The Conference met at Leigh in June, Mr. J. Crumbleholme presiding. It was resolved that as one of the fundamental principles of the constitution was that there should be no distinction between clergy and laity, the title Reverend should be kept out of the record. The churches were advised to recognize as members young people of approved character and sixteen years of age who are active members of the Christian Endeavor Society. The affairs of the Ministers' Assistance fund were considered. Toward the New Century fund of £5,000, £3,200 had been promised and £2,500 had been paid. The office of vice-president was abolished.

XVII. Australasian Wesleyan Methodist Church.—The statistical returns of this Church, reported to the General Conference in May, gave the following numbers: Of ministers, 719 in full connection and 83 on probation; of local preachers, 6,661; of class-leaders, 7,807; of church-members, 108,136, with 10,626 on trial and 18,953 junior members of society; of teachers in Sunday-schools, 21,476; of pupils in the same, 211,082; of churches, 3,389, with 2,150 other preaching places and 485 schoolrooms; of persons ministered to by class-leaders, 556,337.

The General Conference met in Brisbane, May 17. The retiring president, the Rev. H. T. Burgess, D.D., opened the proceedings with an address in which he referred to the important events which had happened to Australia and the British Empire since the preceding General Conference, and considered the opportunities which were opening before the Methodist Church and its duties in view of them. He declared that the question of the union of all the Australasian branches of the Methodist Church, started in the General Conference in Adelaide seven years before, was settled. In four of the six conferences union was actually effected; in the others it was decided upon; in the next year it would be complete, and the Methodist Church of Australia would be one in fact, in spirit, and in name. The Rev. George Lane was chosen president of the present General Conference. Much attention was devoted to the concerns of the missions. The taking over of the mission of the former Bible Christian Church of South Australia in China was approved of, and the reopening of the mission, which had been closed on account of the disturbances, was directed. The new constitution proposed by the Board of Missions for the Fijian synods was considered and adopted. The Mission Board was authorized to approach the Fijian Government on the subject of making more adequate provision for the higher education of the people and of securing the attachment of just conditions to any aid offered. It was directed to make suitable provisions for the prosecution of the coolie mission in Fiji, and it was advised to open a mission in the Solomon Islands as soon as practicable. A proposition was approved for the appointment of medical or other specially qualified missionaries ordained for foreign work only, with the proviso

that they should have no claim for circuits on their return to home work, and no claims on the connexional funds. The further working out of this plan was left with a special committee. Unauthorized special appeals for matters of foreign mission work were discouraged. The trustees of the Children's fund reported that 428 mothers and widows were claimants upon them for 1,215 children. An allowance of £8 10s. was made for each child, except in West Australia, where the amount was £9. A thankful acknowledgment was made for the establishment, under the Crown of Great Britain, of the Commonwealth of Australia; and satisfaction was expressed "that at the formal inauguration of the commonwealth and the opening of the Federal Parliament, the Divine blessing upon these national events was reverently invoked," with the hope that the two houses would enact that their daily sessions shall be opened with prayer. The question of the rights of the several churches in the matter of precedence on occasions of public ceremonial having been raised in connection with the proceedings at the inauguration of the commonwealth, a declaration was adopted, that, "whereas under the Constitution of the Commonwealth of Australia the principles of religious freedom are asserted or implied, and whereas under that Constitution all the churches of the commonwealth necessarily possess equality of rights and privileges, the General Conference therefore claims that in all matters in which official recognition is extended to the churches in their representatives, the principle of religious equality shall be observed, and precedence be accorded only on the ground of the numerical position of the churches, apart altogether from any titles or designations by which the heads thereof may be known. The Conference also claims that in relation to the appointment of chaplains in the defense forces or to public institutions of the commonwealth, the same principle shall be recognized and acted upon." The Conference insisted that no alteration in the form of the coronation oath would be acceptable which should relax in any degree the safeguards which insure the Protestant succession to the throne. The Premier was requested to take steps to secure the safeguarding of missionary and British interests generally in the New Hebrides group. Committees were instituted to look after the interests of the Church in the military and naval administration of the commonwealth. The Conference approved of the preparation of a new hymn-book to be undertaken by the British Conference, of such character as to be suitable for all types of Methodism throughout the world. The 1st day of February, 1902, was appointed as the date when Australasian Methodist union shall be declared to be general, on which day the name of the Church will become legally the Australasian Methodist Church.

Methodist Ecumenical Conference.—The third Methodist Ecumenical Conference met in the City Road Chapel, London, Sept. 4. The Conference was composed of 479 delegates, of whom 200 were representatives of the Eastern, or British section, and 279 of the Western, or American section. The opening sermon was preached by Bishop Charles B. Galloway, of the Methodist Episcopal Church, South, on the subject of Christian Experience: Its Supreme Value and Crowned Evidence. A message of good-will invoking blessing on the deliberations of the Conference was received from the Archbishop of Canterbury. A message of greeting was received from the Bishop of London, and was referred to the Rev. Dr. T. Bowman Stephenson, president of the Wes-

leyan Conference, to reply to a clause it contained recalling John Wesley's attachment to the Church of England, and hoping that in the providence of God the Wesleyan Methodists might one day be reunited to the old Church. Addresses of welcome were delivered by the Rev. Dr. E. E. Jenkins, of the Wesleyan Church, the Rev. Joseph Odell, Primitive Methodist, and Sir Charles T. Skelton, New Connection Methodist, to which responses were made by Bishop J. F. Hurst, of the Methodist Episcopal Church; the Rev. Dr. John Potts, of the Methodist Church of Canada, who spoke of the beneficial effects of the union of the Methodist churches of the Dominion which had made them one from the Atlantic to the Pacific; and Bishop Walters, of the African Methodist Episcopal Zion Church, who spoke of the African Methodist Episcopal churches of America as numbering 27 bishops, 1,462,304 communicants, 1,821,468 pupils in Sunday-schools, and 5,000,000 adherents.

The subject of the second day's proceedings was The Present Position of Methodism in the World, and was treated in papers relating to the territory covered by the Eastern section; the state of the Methodist churches in Australia and the near completion of the union there; united Methodism in Ireland; the work of the Methodist churches in Africa; and The Present Position of Methodism in the Western Section. On the third day papers were read on The Influence of Methodism in the Promotion of International Peace, International Fellowship among Methodists, and The Relation of Methodism to the Evangelical Church Movement. The subjects of the discussions of the fourth day were Biblical Criticism and the Christian Faith, Recent Corroborations of the Scripture Narrative, and The Appeal of the Old Testament to the Life and Conscience of Today. Those of the fifth day were Principles of Protestantism *versus* Modern Sacerdotalism, and Methodism and Education in the Twentieth Century. The following resolution commending the movement for Methodist union was adopted:

"Resolved, 1. That this Ecumenical Conference rejoices in the abounding evidences of the essential unity which pervades the Methodist churches throughout the world, and records with devout thankfulness to the great head of the Church the accomplishment of the organic union of the several branches of Methodism in Australasia. The Conference confidently anticipates that the Methodist churches will yet see that such is the divine will, and will follow the example set by the Methodist churches in Canada and Australasia.

"2. That this Conference recommends the churches of the Eastern section taking into serious consideration that the time has come for, at all events, a partial union among themselves."

The discussions were resumed on the sixth day, with papers and addresses on Christianity and Modern Unbelief, Secularism and Christianity, and Modern Indifferentism, and on the seventh day upon Methodist Literature, New Demands for Methodist Authorship, and Methodist Journalism. Deputations bringing fraternal salutations were received from the National Council of Evangelical Free Churches, the United Free Church of Scotland, the Presbyterian Alliance, the Moravian Church, the Huguenot Congregation at Canterbury, and the Salvation Army. The proceedings of the seventh day included papers and addresses on the question, Is Methodism retaining its Spiritual Vitality? and The Neglect of Family Religion and Worship. The subjects for the ninth day were Practical Methods of Dealing with the Liquor Traffic and the Ethics of Gambling. On the tenth day, Sept. 14, after appropriate pro-

ceedings and the passage of resolutions with respect to the death of President McKinley, the Conference proceeded with the consideration of the subjects of The Perils of Increasing Wealth and Luxury, and on the eleventh day of Elements of Pulpit Effectiveness and How to Mobilize the Church. The twelfth day, the closing day of the Conference, was occupied with the discussion of the subjects of Missions, The Work before Us, and the Resources for the Work, after which a memorial service of President McKinley was held.

Propositions with reference to the preparation of a common Methodist hymn-book were referred to a committee which reported that while regarding the suggestion as a thing to be hoped for at some future day, in view of certain business arrangements which had been made and financial responsibilities incurred by some of the Methodist bodies, the plan was not at present practicable. A plan was adopted for the organization of the fourth Ecumenical Conference in 1911, which will be held within the bounds of the Western section and will consist of 500 delegates. Provision was made in this action for a full consideration of the work of foreign missions, evangelistic work in the great cities, and the work of Methodist women. An ecumenical address to Methodists throughout the world was read to the Conference and adopted.

A Young People's meeting was held, and the subjects of the Moral Unity of the English-speaking Races and Evangelistic Work in Great Cities were presented at public evening meetings.

A special meeting of the women attending the Conference as wives of delegates was held Sept. 13, at which a number of addresses were made, and the Conference was requested to make provision in the program for the fourth Ecumenical Conference for the presentation of "the work of the women of world-wide Methodism."

To the greeting of the Archbishop of Canterbury the following reply was adopted and sent:

"The Ecumenical Methodist Conference, representing more than 7,000,000 communicants, earnestly prays that you may yet be spared for many years to fulfil the duties of your great office, and that the blessing of Almighty God may abundantly rest upon the Reformed Church of England over which you preside.—I am, my Lord Archbishop, yours faithfully, T. Bowman Stephenson."

As the salutation of the Bishop of London to the Conference expressed a desire for the return of the Methodists to the Anglican communion, the following special reply was adopted, to be sent to him:

"MY LORD BISHOP: I am deputed by this Conference to reply on its behalf to your kind and courteous letter, dated Sept. 1. The historic connection of early Methodism with the Anglican Church and our obligations to the scholarship and saintship of your communion makes such a message of good-will very welcome to our hearts. Though the last thing we should wish is to make the reception of such a letter as yours an opportunity for controversy, the desire definitely expressed in your letter appears to require an answer as definite.

"The Conference represents the whole family of Methodist churches throughout the world. Differing in some non-essential points of church government, they are alike in creed, in the main principles of church organization, and in the accepted modes of Christian fellowship, and they are in full communion with each other. In some respects, therefore, the relation of this Confer-

ence to the Methodist churches is similar to that of the Pan-Anglican Synod to the Anglican churches. But the Conference differs from the Synod in the fact that it is composed of representative ministers and laity. It has no authority over the constituent churches, but affects them powerfully by its discussions, its tone and influence.

"From this you will see that your suggestion respecting a possible union of the Methodist with the Anglican Church raises vast and far-reaching issues. Of the many millions of Methodists represented here probably six-sevenths live in the United States and portions of the British Empire in which there is no establishment of religion by law. Of the remaining seventh a very large majority would not consent to part with the perfect independence now enjoyed by the churches to which they belong under the sole headship of Christ our Lord. You will see how powerfully this fact bears upon your suggestion.

"But a great and more permanent difficulty lies in the way. We are not aware that any constituted authority in the Church of England has expressed the willingness of that Church to recognize the validity of the ministry and sacraments which we possess and cherish. That being so, any consent of ours to a movement toward corporate union with the Anglican Church would be an acknowledgment of an invalidity and inferiority of our church order, which our convictions would not allow us to make.

"None the less do we appreciate the courtesy and kindness of your communication. We pray that God may richly bless the efforts of yourself and your brethren for the spiritual and social uplifting of the population of this country. We are ready to cooperate with our Anglican brethren in all good works so far as the beliefs and practices of your Church will allow, and we wish to maintain the traditional policy of the Methodist Church, expressed by Wesley himself in his famous phrase, 'We desire to be the friends of all and the enemies of none.'—I am, my dear Lord Bishop, yours very obediently,

"T. BOWMAN STEPHENSON."

A report on statistics of the world's Methodism embodied estimates that in the Western section there were 42,064 itinerant preachers, 46,884 local preachers, 6,437,361 church-members, 62,030 churches, the value of their church property was \$180,179,850, and they had 62,489 Sunday-schools, 582,929 teachers and officers, and 5,091,897 Sunday scholars. In the Eastern section 6,276 ministers, 58,413 local preachers, 27,077 churches, 1,221,824 members, 20,750 Sunday-schools, 273,415 leaders and officers, and 2,175,623 scholars. The totals in both sections were 48,334 ministers, 104,786 local preachers, 7,659,285 members, 61,228 Sunday-schools, 361,392 officers and teachers, and 7,077,079 scholars, showing increase in ten years of 5,131 ministers, 17,891 local preachers, 280 Sunday-schools, and 442,979 scholars, and a decrease of 17,825 teachers. Estimated whole number of adherents, 24,899,401; valuation of Church property in the Western section, \$180,000,000; in the Eastern section, \$120,000,000.

MEXICO, a federal republic in North America. The legislative power is vested in the Congress, consisting of a Senate of 56 members, 2 from each State and the Federal District, and a House of Representatives containing 227 members, 1 to 40,000 of population, the Representatives elected for two years, the Senators for four years, by the votes of all respectable adult male citizens. The term of the President is also four years. Gen.

Porfirio Diaz was elected President in 1876, and has been reelected five times, the last time on July 9, 1900. The Cabinet was composed in the beginning of 1901 as follows: Secretary of State, Gen. J. M. Gonzalez Cosio; for Foreign Affairs, I. Mariscal; for Finance, Gen. M. Gonzalez Cosio; for Justice and Instruction, J. Baranda; for Fomento, M. de la Cruz; for Communications and Public Works, Gen. F. Z. Mena; for War and Marine, Gen. Bernardo Reyes; Treasurer, F. Espinosa.

Area and Population.—The area of Mexico is 767,005 square miles, including islands with an area of 1,420 square miles. The population in 1895 was 12,491,573, having increased from 9,908,011 in 1879. The proportion of whites in 1895 was 19 per cent.; of mestizos, 43 per cent.; of pure Indians, 38 per cent. The foreign population was 50,888, of whom 11,331 were citizens of the United States. Mexico, the capital city, had 329,774 inhabitants. The number of marriages recorded in 1897 was 51,000; of births, 375,376; of deaths, 455,009. Registration, especially of births, is neglected, and in 1898 it was made a legal condition of the legitimacy of children.

Finances.—The revenue of the Federal Government for the year ending June 30, 1900, was \$64,261,078 in silver, including temporary loans and money raised on bonds for the payment of railroad subventions; and the expenditure was \$58,309,934. For the financial year 1901 the ordinary revenue was estimated at \$58,234,000, of which \$26,868,000 were import and export duties, \$23,132,000 internal taxes levied in the federal district and territories, \$3,067,000 receipts from public services, and \$1,499,000 receipts from the mint, assay-offices, and patents. The expenditure for 1901 was estimated at \$58,009,082, of which \$1,020,443 were required for the legislative, \$82,469 for the executive, and \$515,224 for the judicial power, \$586,043 for foreign affairs, \$4,328,879 for the interior, \$2,657,551 for the Department of Justice and Education, \$952,283 for agriculture and commerce, \$7,415,476 for public works, \$6,793,821 for finance, \$20,372,992 for the public debt and pensions, and \$13,283,901 for the army and navy. The revenue for the year ending June 30, 1902, was estimated at \$61,694,000, and expenditure at \$61,577,990. The receipts in 1901 exceeded the estimate by \$11,000,000. The foreign debt in 1900 amounted to £22,628,920 sterling. There were also \$140,000 of 6-per-cent. bonds outstanding payable in silver. The amount of the internal debt was \$114,542,648 on June 30, 1899, besides a floating debt of \$953,619.

The revenue of the states in 1898 amounted to the sum of \$18,930,608, and their expenditure to \$16,429,909. The revenue of municipalities was \$15,635,031, and expenditure \$15,381,670.

Commerce and Production.—The production of rice in 1898 was 20,718 tons; of beans, 5,264,269 hectoliters; of corn, 39,238,300 hectoliters; of wheat, 235,342 tons; of sugar, 66,761 tons; of panocha, 71,649 tons; of molasses, 65,206 tons; of spirits, 1,063,804 hectoliters; of henequen, 66,230 tons; of cotton, 44,794 tons; of logwood, 74,777 tons; of cacao, 1,341 tons; of coffee, 16,100 tons; of tobacco, 43,524 tons; of fermented liquors, 6,127,511 hectoliters. There were 1,693 mines in operation in 1898, of which 89 produced gold only, 373 gold and silver, 172 gold with other metals, 259 silver only, 168 silver and lead, 129 silver with other metals, 23 copper only, 7 copper and iron, 20 lead, 3 lead with zinc and iron, 17 iron, 41 antimony and cinnabar, 7 sulfur, tin, and graphite, and 385 were not developed. The ores raised in 1898 were valued at \$65,129,840. The number of workers in the mines was 89,000. The

quantity of gold brought to the assay-offices during the financial year 1898 was 5,712 kilograms, valued at \$3,858,269; of silver, 1,496,969 kilograms, valued at \$61,106,772. These figures do not include the precious metals intended for export, consisting of 5,041 kilograms of gold, value \$3,404,728, and 936,158 kilograms of silver, value \$41,707,635. There are 8 assay-offices and 3 mints, at which gold will be coined for anybody with a deduction of 4.62 per cent. and silver with a deduction of 4.41 per cent. There were 1,972 distilleries in 1898, producing 726,135 gallons of spirits. There were 118 cotton-mills, with 13,994 looms and 468,547 spindles, consuming 57,201,573 pounds of raw cotton, and producing 3,795,446 pounds of yarn and 9,875,764 pieces of cloth. The number of tobacco factories was 721, consuming 6,148,362 pounds of tobacco, and turning out 162,689,604 packets of cigarettes, 22,976,415 cigars, and 32,632,073 cheroots.

The total value of imports in the year ending June 30, 1900, was \$61,304,914 in gold. The exports were \$150,056,360 in silver, merchandise being valued at \$79,031,336 and precious metals at \$71,025,024. The exports of silver bullion were \$39,422,839; of silver coin, \$11,464,450; of silver ore, \$12,693,445; of gold, \$6,726,880; of coffee, \$10,898,678; of henequen, \$26,099,388; of woods, \$2,423,515; of hides and skins, \$4,142,368; of cattle, \$5,732,064; of tobacco, \$1,645,576; of ixtle, \$1,653,080; of zacaton root, \$994,238; of vanilla, \$1,281,436; of beans, \$580,655.

The commerce, inclusive of precious metals, was divided among the principal foreign countries in 1900 as follows, the value of imports being given in gold and of exports in silver:

COUNTRIES.	Imports.	Exports.
United states.....	\$31,030,136	\$116,098,456
Great Britain.....	10,479,512	12,414,733
France.....	6,634,015	6,637,815
Germany.....	6,678,393	5,051,187
Spain.....	2,918,323	912,173
Other countries.....	3,454,535	8,878,561

Navigation.—The number of vessels in the foreign trade entered at Mexican ports during the year ending June 30, 1899, was 1,502, of 1,838,189 tons; cleared, 1,401, of 1,754,197 tons. The merchant navy in 1898 consisted of 51 sailing vessels, of 9,317 tons, and 17 steamers, of 4,081 tons.

Railroads, Posts, and Telegraphs.—The length of railroads in operation in 1900 was 9,027 miles. The traffic in 1898 was 9,061,646 passengers and 5,964,183 tons of freight; gross receipts, \$37,800,596.

The post-office in 1899 transmitted 122,620,216 letters and postal cards; receipts, \$1,595,818; expenses, \$1,991,921.

The telegraphs had a total length in 1899 of 42,000 miles, of which 28,560 miles belonged to the Federal Government and the rest to state governments and telegraph and railroad companies. The number of despatches in 1898 was 2,288,946. There were 17,678 miles to telephones in 1899.

The Maya Rebellion.—The Mexican Government has made great efforts to bring into subjection the Mayas of Yucatan, a state only lately redeemed from the wild condition, but now undergoing a rapid development owing to the cultivation of henequen. The agave fiber goes to the United States, and the price has steadily risen. The plant covers 350 square miles, and the exports in 1900 were nearly 500,000 bales. The English machinery formerly used in separating the fiber is superseded by American automatic machines, the imports of which, and of portable rails and

general supplies, were large in 1900. From Yucatan are exported also logwood to Europe, and deerskins, hides, and chewing-gum to the United States. The interminable warfare against the independent Mayas in the southeastern part of the state was alternated in the early part of 1901 with efforts to secure their submission by pacific means. These were not successful, and later there was a fresh and more formidable development of military force.

MICHIGAN. (See under UNITED STATES.)

MINNESOTA. (See under UNITED STATES.)

MISSIONS, FOREIGN, SOCIETIES OF.

The eighth annual Conference of Officers and Representatives of Boards and Societies of Foreign Missions in the United States and Canada was held in the city of New York, Jan. 16-18. The first of these conferences was held in 1893, by invitation of the Presbyterian Board of Foreign Missions, and a conference of similar character followed in every year thereafter except 1900, when its place was taken by the Ecumenical Conference of Foreign Missions. Much is claimed to have been done by these conferences to promote mutual understanding among missionary boards and societies, the growth of comity and cooperation on the mission field, and self-support by the native churches. Between 30 and 40 mission boards were represented at the present meeting, and important papers on a variety of topics were presented and discussed. A minute was adopted in reply to a recent appeal by 5 Buddhist sects in Japan "to ecclesiastics throughout the world" concerning missions in China. A committee was appointed to prepare a plan for a central bureau of missionary information and submit it to the boards represented in the conference. The plan is to be carried into effect when it has received the approval of three-fourths of these boards.

The American Board is accustomed to issue every year a summary of the general statistics of all Protestant foreign missions, as compiled by its statistical secretary, the Rev. Dr. E. E. Strong. The summary for 1901 (December) shows that these missions, representing the Protestant churches in the United States, Canada, Great Britain and Ireland, Europe, Asia, Africa, and Oceanica, include 6,229 stations, 23,188 out-stations, 12,412 missionaries, 70,218 native laborers, 13,526 churches, 1,285,227 communicants, and total receipts of \$18,121,120. The total income for the year of British foreign missionary and kindred societies was \$8,575,306. The summaries of 33 principal foreign mission societies in the United States show—number of principal stations, 829; of out-stations, 6,035; of American missionaries, 3,635; of native laborers, 17,427; of churches, 3,981; of communicants, 405,653; of members added during the year, 32,251; of persons under instruction, 208,502; amount of native contributions, \$619,834; amount contributed in America for the support of the missions, \$5,636,758. More than 30 foreign missionary societies were laboring in Japan, where 157 stations and 734 out-stations were occupied.

MISSISSIPPI. (See under UNITED STATES.)

MISSOURI. (See under UNITED STATES.)

MONTANA. (See under UNITED STATES.)

MORAVIANS. The official statistics of the American Moravian Church, Dec. 31, 1900, give it in the two districts, Northern and Southern, 15,225 communicants, 1,630 non-communicants, and 6,612 children, making a total of 23,467 members; 13,743 pupils and 1,510 officers and teachers in Sunday-schools. The contributions of the churches of the Northern district (18,195 mem-

bers) for the year were: For church support, \$127,798; for retired ministers, \$2,259; for the Bohemian mission, \$1,535; for foreign missions, \$6,076; for the Alaska mission, \$2,926; for home missions, \$9,056; for the theological seminary, \$3,368; for all other Moravian causes, \$1,668; for general Christian objects, \$2,285; the total, as footed up in the tables, being \$29,175. The total of gifts reported by the provincial treasurer as passing through his hands for Moravian causes alone, excluding all income from funds, gifts for individual churches, and collections made by individual pastors, was \$28,547.

Gifts of \$4,846 were made during 1900 to the Moravian College and Theological Seminary, in addition to which the library of the institution received a considerable collection of books and pamphlets of theological and historical interest from Mr. F. Leinbach.

The contributions of the churches to the Alaska mission for the year ending July 31 footed up to \$3,120. The Society for the Propagation of the Gospel appropriated \$8,449; and with other miscellaneous items, the total receipt and expenditure of the mission was \$14,157. The mission returned 780 members of all classes, showing a decrease of 214, which was attributed to the unusually large number of deaths, the result of an epidemic of influenza. Had the death-rate been no larger than in the previous year the figures would have shown an increase of 40. Two hundred and sixty-nine "new people" and candidates were returned, 17 persons had been confirmed during the year, 14 couples married, and 32 members placed under church discipline. The missionary force consisted of 5 brethren and 7 sisters, with 21 native helpers.

At the annual meeting of the London Association in aid of Moravian Missions, May 3, it was reported that the number of stations was 190, with 266 day-schools attended by about 25,000 pupils, and 123 Sunday-schools, numbering more than 18,000 pupils. The most pressing needs at present were largely increased help for the General fund, £10,000 for the Medical Missionary fund, £500 for the leper home at Jerusalem, and £2,000 annually would be required for a few years, till the mission in Labrador could be reestablished on a firmer footing.

MOROCCO, an empire in northern Africa. The Emperor is an absolute monarch, ruler in temporal and spiritual affairs, deferring occasionally in religious matters to the Sharif of Taflet and often in civil affairs to his Grand Vizier or Chamberlain. The reigning Sultan is Mulai Abdul Aziz, born Feb. 24, 1878. The Grand Vizier in the beginning of 1901 was Abdullah ben Ahmed; Minister of Foreign Affairs, Abdul Krim ben Sliman; Minister of War, Kaid el Mehedi el Menebhi; Minister of Finance, Shuiikh Tasi; Grand Chamberlain, Mohammed ben Dris ben Allem.

Morocco has an area of about 219,000 square miles, of which all except 53,800 square miles is desert. The population is estimated variously between 2,750,000 and 9,400,000. Fez, the northern capital, has about 140,000 inhabitants; Tangier, 30,000, including 5,000 Christians; Morocco, the southern capital, 50,000.

Abdul Aziz, the young Sultan of Morocco, was the favorite son of the late Sultan, Mulai Hassan, and his chosen heir, though a younger son, child of a Georgian slave whom Fedul Garnit, the companion of his childhood, who made the pilgrimage to Mecca for him by proxy, brought back with him from Constantinople for his own harem, and presented to his master when the latter expressed a wish to see the famous beauty. This white

slave, Lella Rekia, took precedence in the Sultan's affections over his four Sherrefia and numerous concubines, and had her son designated as his successor. The people were not content with this choice, nor the army, nor the officers. The Mulai Hassan died suddenly in his tent in the neighborhood of Rabat, his Chamberlain, Bo Hamed ben Musa, who was nearest to him, the highest in authority where none enjoyed much political power, for the late Sultan was his own Chancellor, concealed the death, even from the palanquin-bearers who carried the corpse, until he had proclaimed Mulai Abdul Aziz and taken possession of the palace, the royal treasury, and the offices in his name. There was a rising in favor of the eldest son which Bo Hamed crushed. The youthful Sultan made Bo Hamed his Grand Vizier, and left everything to him, and Bo Hamed used his opportunities as Moorish Grand Viziers do when the Sultan's despotic power is entrusted in their hands. He amassed a fortune of many millions, and was feared and dreaded from one end of Morocco to the other, until he himself was afraid to leave the city of Morocco, where he built a magnificent palace. His chief lieutenant and confidant was the Kaid Mehedi el Menebhi, who had been imprisoned with his relations during the reign of Mulai Hassan. Bo Hamed released them for a bribe and took the young man, who was attractive, energetic, and crafty, into favor. When Bo Hamed died the expected civil disturbances which usually follow the demise of the man of power in Morocco did not occur. His mantle fell on Mehedi el Menebhi, who made his position secure by bringing into the royal coffers the vast wealth of Bo Hamed, whose relatives were cast into prison. The wily courtier did not at once grasp the office of Vizier, but put forward a man of riper years and reputation, Abdullah ben Ahmed, taking for himself the post of Minister of War, though in affairs of state his voice was more potent with the Sultan, who still remained in the southern capital and was more interested in photography, cycling, and other European inventions than in the government of his empire. The old Vizier's conservative notions were shocked when he saw the Commander of the Faithful riding a bicycle. He ventured to reprove his Sherrefian Majesty, and the time of Mehedi el Menebhi having arrived, he lost his office in the customary way, being suddenly and secretly carried away in March, 1901, to a distant town and cast into chains together with his relations, his fortune being garnered into the Sultan's treasury. Other high officials were dismissed and degraded like the Vizier el Hadji el Mokhtar, and their property was confiscated, including freed slaves as well as those still in bondage, all of whom to the number of 1,050 were sold in the open market.

The constant residence of Mulai Abdul Aziz in the city of Morocco caused a great relaxation of his authority throughout the empire. His predecessors had ruled as the Romans did in north Africa by setting up rivals in power and inciting tribes against one another in order to triumph over both. Fear and terror, accompanied by a reverential regard for the dynasty of Filali, descended from the Prophet, have kept the turbulent Berber tribes of the plains and the mountains in submission, while the voluptuous Moors of the cities are willing to pay a rich tribute if they are permitted to enjoy their lives and property from one year to another. The ambulant court, sojourning now in the north, in Fez or Mequinez, now in the south, in Rabat or Morocco, accompanied on the march to and fro by an army that

fell upon the provinces and tribes that were dilatory or recalcitrant in the payment of taxes, leaving the districts thus sat upon as bare as if a plague of locusts had visited them, kept the country districts in subjection and the cities contented with the lively trade which sprang up when the Sultan took up his periodical residence within their walls. Disaffection and lawlessness crept in when Bo Hamed and Mehedi el Menebhi for their private purposes kept the Sultan in the same city year after year. The restless province of Sus rebelled openly. In the far southeast the authority of the Sultan was defied, and the tribes made raids into the districts recently annexed by France and aided the inhabitants in resisting French troops. The country between Fez and Tafilet was given over to robbery and anarchy. Close to Tangier the districts of El Kasar, Arsila, and Gharb were full of unrest, disorder, and crime. A United States war-vessel was ordered to Tangier in the spring of 1901 for the purpose of conveying M. Gummeré, the American consul-general, to Mazagan, on a special mission to Morocco for the adjustment of claims made by American *protégés*. The Grand Vizier and the Minister of Foreign Affairs had refused to admit a special mission to the Moorish court, and for their discourtesy the consul-general was instructed to demand an apology. Later the special mission was countermanded from Washington. The French Government threatened to hold the Moorish Government responsible for predatory incursions of Berber tribes into French territory, but M. Jonnart, on entering upon office as Governor-General of Algeria, preferred to use only diplomatic means in dealing with Morocco. The Moorish Government offered satisfaction for the murder of a Frenchman named Pouzet in the Riff hills and for the seizure of Boneoyas and other questions with Algeria. M. Revoil, the French minister to Morocco who brought the Moorish court to terms, became M. Jonnart's successor when the latter had to retire for reasons of health from Algeria. The Berbers had attacked the French post at Salah Matefor and later joined the natives of the oases in a pitched battle with a French force at Timimun, 120 miles from the most advanced Moorish posts. These aggressions ceased when the Moorish Government, after a threatening visit of French cruisers to Tangier, gave up its pretensions to Tuat, and despatched an embassy to Paris, which afterward visited St. Petersburg. Another embassy went to London to congratulate King Edward on his accession to the throne, and afterward to Berlin. Kaid Mehedi el Menebhi was the head of this mission, on which he was accompanied by the Kaid Maclean, a Scotch military instructor who became a Moor.

While Mehedi el Menebhi was absent his enemies gained the ear of the Sultan. Lella Rekia wished to promote her old friend Sid Garnit to the office of Grand Vizier. Abdul Aziz was informed that Mehedi el Menebhi had kept for himself several million dollars of Bo Hamed's fortune, and that in London he had promised concessions that would be pecuniarily profitable to him but otherwise detrimental and dangerous. The migration of the court from the region where his influence was powerful to Fez, which it had not visited for six years, was at last decreed. El Menebhi, hearing of these things as he was departing from Berlin, returned to Morocco as fast as steam and fleet horses could carry him, and took up the contest with his rival. He found that he had been supplanted as Minister of War, that his bodyguard was disbanded, that his creatures in office were removed and imprisoned, and that a

brother of Sid Garnit was Minister of Justice. When Mehedi el Menebhi reached Morocco he was not disgraced or arrested; neither, on the other hand, did he regain his former ascendancy over the Sultan. He was reappointed Minister of War in the place of Abdesalam Zemrani, who had received the appointment in his absence. His contest with Sid Garnit for the grand vizierate interrupted all business. In the end his rival obtained the post, yet his power and influence were not destroyed. The departure of the court for Fez was postponed indefinitely. The convention that Mehedi el Menebhi concluded with the British Government in June was not ratified, excepting a provision permitting the exportation of potatoes, tomatoes, and bananas on payment of a 5-per-cent. duty. Lawlessness and discontent became more serious throughout the country. A Spanish girl and boy near Tangier were carried off into slavery. The Spanish Government demanded the payment of \$1,000 a day until they were restored. All the powers supported Spain, and warned the Sultan of the gravity of the case. The Sultan finally sent 3,000 soldiers to effect the release of the captives and punish the Kabyles who had abducted them. He also agreed to pay the damages claimed by the Spanish Government. Mehedi el Menebhi maintained his position at court with difficulty, though defiantly. In political affairs he remained the chief adviser of the Sultan, who announced several reforms. He promised to amend the prison administration throughout the country, which has been abominable. The country prisons are walled enclosures without roof or shade, in which prisoners wear iron collars attached to a long heavy chain fastening them together. The mere possession of money saved is enough to cause a farmer to be incarcerated without trial. The prisoners have bad water supplied irregularly, and for food must depend upon their friends. Abdul Aziz has promised to appoint inspectors who shall see that the prisons are properly built and kept and rations supplied to prisoners. Another important reform is the removal of the obstacles to trade between the ports of Morocco, which have been so serious that wheat was usually five times as dear in the northern parts as in southern Morocco, where it is grown. A new system of taxation has been decreed whereby the collection is taken away from the governors, who practise extortion, and is conducted by special officials.

The pacific policy of France toward Morocco coincides with the extension of French dominion and influence in the Sahara behind Morocco in regions which the Sultan claimed as a part of his empire, though Moorish sovereignty there is not apparent. This claim he was constrained to withdraw when his protests met with no support. The boundary between Algeria and Morocco was defined in the treaty of 1845 as far as the Sahara. In the desert no territorial boundary was fixed. Certain Arab tribes were recognized as French and others as Moorish, and the two governments mutually conceded to each other the right to pursue and punish its own subjects in any part of the Sahara, but not the subjects of the other Government. The Moorish Government pressed for a delimitation in 1879, in 1885, and in 1891. The French Government, proceeding on the principle that the absence of an official boundary is advantageous to the stronger power, raised difficulties in the way of carrying out the clause in the treaty of 1845 which provides for prolonging the frontier line south of Teniet el Sassi by a mixed commission. Si Abdul Kerim, the Minister of Foreign Affairs, who went as special ambassador to Paris,

arranged with M. Delcassé a *modus vivendi* governed by the principle embodied in the treaty of 1845, according to which each Government is to keep its own subjects in restraint in the Hinterland of Morocco. The Shereefian court recognized the accomplished facts, and therefore abandoned

its claims to the Sahara, withdrew all the objections it had offered to the construction of the French railroad to the southwest, and to the organization under French rule of the tribes in the western oases, and agreed to the establishment and maintenance of a frontier police.

N

NATIONAL ACADEMY OF SCIENCES.

The officers of the academy in 1901 were: President, Alexander Agassiz; Vice-President, Asaph Hall; Foreign Secretary, Ira Remsen; Home Secretary, Arnold Hague, Metropolitan Club, Washington, D. C.; Treasurer, Charles D. Walcott. Two meetings were held in 1901.

The first or stated meeting was held in Washington, April 16 to 18. On that occasion the following papers were read: The Climatology of the Isthmus of Panama, by Henry L. Abbot; Simultaneous Volumetric and Electric Graduation of the Condensation Tube, by Carl Barus; Conditions Affecting the Fertility of Sheep and the Sex of their Offspring, by Alexander Graham Bell; Table of Results of an Experimental Inquiry regarding the Nutritive Action of Alcohol, prepared by Prof. W. O. Atwater, of Middletown, Conn., presented by John S. Billings; The Significance of the Dissimilar Limbs of the Ornithomorphous Dinosaurs, by Theodore Gill; The Use of Formulæ in Demonstrating the Relations of the Life History of an Individual to the Evolution of its Group, by Alpheus Hyatt; The New Spectrum, by Samuel P. Langley; The Place of Mind in Nature, and The Foundation of Mind, by John W. Powell; Artificial Parthenogenesis and its Relation to Normal Fertilization, by Edmund B. Wilson; and The Effects of Secular Cooling and Meteoric Dust on the Length of the Terrestrial Day, by Robert S. Woodward. The public business included the award of the Draper medal to Sir William Huggins, of London, England, for his researches in astrophysics.

The following foreign associates were elected at this meeting: A. Bornet, M. Cornu, J. Jannssen, and M. Loewy, of Paris, France; Sir Archibald Geikie, of London, England; and H. Kroniker, of Bonn, and Friedrich Kohlrausch, of Berlin, Germany, all of whom have attained unusual prominence in their various branches of science. The vacancy caused by the retirement of Dr. Walcott Gibbs from the presidency was filled by the election of Alexander Agassiz to that office. The latter for some years had been foreign secretary, and Ira Remsen was elected to fill that place, while Arnold Hague, of Washington city, was chosen home secretary. The following additional members of the council were elected: John S. Billings, Henry P. Bowditch, George J. Brush, Arnold Hague, Samuel P. Langley, and Simon Newcomb. The new members elected at this meeting were: George Ferdinand Becker, who, since 1879, has been connected with the United States Geological Survey; James McKeen Cattell, who fills the chair of Psychology in Columbia University, and is the editor of Science; Eliakim Hastings Moore, head Professor of Mathematics in the University of Chicago since 1890; Edward Leamington Nichols, who, since 1887, has held the chair of Physics in Cornell University; and Theophile Mitchell Prudden, Professor of Pathology in Columbia University and director of its histological laboratory. The preparation of a memoir on John G. Barnard was assigned to Henry L. Abbot, and one on Henry A. Rowland to Ira Remsen.

The scientific session was held in the University of Pennsylvania, Philadelphia, Nov. 12, 13, and 14, 1901, when the following papers were read: The Monatomic Gases, and On the Newer Forms of Incandescent Electric Lamps, by George F. Barker; On Quadrant Electrometry with a Free Light Needle highly charged through a Conductor of Ionized Air, and On Nuclear Condensation in the Vapor of Non-Electrolytes like Benzene, and on Graded Condensation, by Carl Barus; Note on Linear Force exerted by Growing Crystals, and Note on the Orogenic Theory of Tilted Blocks, by George F. Becker; The Work of the International Association of Academies, by Henry L. Bowditch; On the Pseudo-Catalytic Action of Concentrated Acids, by James M. Crafts; Snake Venom in Relation to Hæmolysis, Bacteriolysis, and Toxicity, by S. Weir Mitchell and Simon Flexner; A New Gage for the Direct Measurement of Small Pressures, and Transmission of Heat through Vapor of Water at Small Pressures, by Edward W. Morley and Charles F. Brush; Dolichocephaly and Brachycephaly as the Dominant Factors in Cranial Evolution, Cranial Evolution of Titanotherium II, and Latent or Potential Homology, by Henry F. Osborn; On the Logic of Research into Ancient History, by Charles S. Peirce; On the Use of the Stereographic Projection in making Accurate Maps, with Criticism of Some Recent Methods of Map Projection, and The Tendency of Complex Chemical Radicals to control Crystallization because of their Mass Effect; A Study in Isomorphism, by Samuel L. Penfield; On the Nature of the Double Halides, by Ira Remsen; and Observations on Tungsten, by Edgar F. Smith. Also a Biographical Memoir of Frederick Augustus Genth, by George F. Barker, and a Biographical Memoir of Gen. John Newton, by Cyrus B. Comstock; and the following papers by non-members of the academy: A Method of Rearing Marine Larvæ, by Caswell Grave, introduced by William K. Brooks; and On the Vaso-Motor Supply of the Lungs, by Horatio C. Wood, Jr., introduced by George F. Barker.

No business of public importance was transacted at this session. During the year the academy lost by death Joseph Le Conte, Richmond Mayo-Smith, Henry A. Rowland, and Charles A. Schott, of whom brief biographies are given under OBITUARIES, AMERICAN.

NEBRASKA. (See under UNITED STATES.)

NETHERLANDS, a monarchy in western Europe. The legislative authority is vested in the States General, consisting of the First Chamber, containing 50 members elected by the provincial councils for nine years, and the Second Chamber, containing 100 members elected for four years by all citizens who pay direct taxes or are legally qualified for any profession or employment, or who have money in the savings-bank or a salary of 275 guilders a year, or who are owners of boats or occupants of their dwellings. The reigning sovereign is Queen Willemina, born Aug. 31, 1880, daughter of the late King Willem III and Queen Emma, born a Princess of Waldeck. The Queen succeeded to the throne at the death of her father

on Nov. 23, 1890, assumed the royal authority on Sept. 6, 1898, the Queen Dowager having acted as regent during her minority, and married on Feb. 7, 1901, Prince Henry of Mecklenburg-Schwerin.

The Council of Ministers at the beginning of 1901 was composed as follows: President of the Council and Minister of Foreign Affairs, Dr. W. H. de Beaufort; Minister of Justice, Dr. P. W. A. Cort van der Linden; Minister of the Interior, H. Goeman Borgesius; Minister of Marine, Vice-Admiral J. A. Roell; Minister of Finance, N. G. Pierson; Minister of War, Lieut.-Gen. K. Eland; Minister of Waterstaat, Commerce, and Industry, C. Lely; Minister of the Colonies, J. T. Cremer.

Area and Population.—The area of the Netherlands, or Holland, is 12,648 square miles. The population on Dec. 31, 1899, was estimated at 5,139,565, divided into 2,520,380 males and 2,583,544 females. The proportion living in large towns was 36.7 per cent. Amsterdam had at the end of 1899 a population of 523,557; Rotterdam, 319,866; The Hague, 205,328; Utrecht, 102,040. The number of marriages in 1899 was 37,990; of births, 163,289; of deaths, 87,319; excess of births, 75,970. The number of emigrants in 1899 was 1,347, of whom 1,260 were bound for America and 87 for Africa. The total comprised 674 men, 332 women, and 341 children. The total number of emigrants, Dutch and foreigners, who sailed from Dutch ports, was 20,296.

Finances.—The ordinary revenue for the fiscal year 1899 was 146,486,738 guilders, and the extraordinary receipts from loans and other sources were 1,535,019 guilders; total, 148,021,758 guilders. Of the ordinary receipts 34,093,180 guilders were derived from direct taxes, 47,375,616 guilders from excise, 22,824,246 guilders from indirect taxes, and 9,191,107 guilders from customs duties. The expenditures in 1899 were 37,634,224 guilders for the army and navy, 37,969,326 guilders for the expenses of the debt, 13,085,961 guilders for public works, and 61,504,478 guilders for general expenses of government; total, 150,193,989 guilders. The budget estimate of revenue for 1900 was 151,260,244 guilders, and of expenditure 144,723,185 guilders. For 1901 the budget estimate of revenue was 149,472,180 guilders, of which 12,832,000 guilders came from the land tax, 8,750,000 guilders from the personal tax, 7,200,000 guilders from the tax on capital, 6,020,000 guilders from the tax on incomes from trades and professions, 48,510,000 guilders from excise duties, 21,667,000 guilders from indirect taxes, 9,618,000 guilders from import duties, 310,000 guilders from the tax on gold and silver, 1,764,000 guilders from domains, 10,389,000 guilders from the post-office, 2,248,500 guilders from the telegraphs, 651,000 guilders from the state lottery, 132,000 guilders from shooting and fishing licenses, 2,300,000 guilders from pilot dues, 11,155 guilders from dues on mines, 4,338,150 guilders from Government railroads, 3,861,000 guilders paid by the East Indies for interest and sinking-fund of the public debt, and 8,869,275 guilders from miscellaneous sources. The expenditure for 1901 was estimated at 154,755,492 guilders, of which 800,000 guilders are the civil list, 681,500 guilders are expenses of the legislative body and the royal Cabinet, 853,218 guilders are for the Department of Foreign Affairs, 6,349,916 guilders for the Department of Justice, 15,966,758 guilders for the Department of the Interior, 16,657,694 guilders for the Department of Marine, 25,108,117 guilders for the Department of Finance, 22,716,429 guilders for the Department of War, 29,380,074 guilders for the Department of Public Works, 1,317,218 guilders for the Department of

the Colonies, 34,874,568 guilders for the public debt, and 50,000 guilders for contingencies.

The funded debt in 1901 consisted of 624,995,400 guilders paying 2½ per cent. interest and the 3-per-cent. loans of 1895, 1898, and 1899, amounting to 518,740,050 guilders; total, 1,143,735,450 guilders, in addition to which, besides 15,000,000 guilders of paper money, there were 264,481 guilders of annuities and a floating debt requiring the annual payment of 300,000 guilders, making the annual debt charge 34,874,568 guilders, including a sinking-fund of 3,121,000 guilders.

The Army and Navy.—The peace strength of the army on June 1, 1899, was 1,919 officers and 25,066 men. All young men at the age of nineteen who are capable of bearing arms, except theological students, are liable to be drawn for service, the annual recruit being 11,000, and since 1898 substitution has not been allowed. Only sons are excused, and only two sons are taken from five in a family. Exemptions for physical defects are liberally allowed. One year with the colors is required in the infantry and twice that time in the cavalry. The conscripts serve alongside of enlisted soldiers, who are still the main reliance, though no longer forming the majority. They volunteer for six or eight years and form one-third of the annual recruit. The active militia in 1899 numbered 43,025 men. It is composed of men drawn by lot at the age of twenty-five from among those who have escaped conscription. The general levy, including all who do not belong to the army or the militia up to the age of forty-five, can only be called out for the defense of the country.

The naval force was strengthened in 1896 and 1898 by 5 protected cruisers, 3 of 3,900 tons—the Holland, Friesland, and Zeeland—and 3 of 3,950 tons—the Gelderland, Nordbrabant, and Utrecht—each armed with 2 6-inch, 6 4.7-inch, 4 3-inch, and 12 smaller quick-firers. Four armored cruisers of 3,520 tons were launched in 1894, and 4 of 5,000 tons are building, the latter to have a speed of 17 knots and to carry 2 9.4-inch guns, with 4 6-inch, 8 3-inch, and numerous small quick-firers. There are building also 3 monitors of 1,500 tons armed with 2 8-inch guns and 1 6-inch, 2 4.7-inch, and 4 3-inch quick-firers and 3 of 1,400 tons, armed with 1 8-inch gun, 1 4.7-inch, and 4 3-inch quick-firers. The new ships have Yarrow water-tube boilers. They are supplemented by a torpedo flotilla consisting of 13 first-class, 15 second-class, and 30 third-class boats.

Navigation.—The number of vessels entered at Dutch ports during 1899 was 11,803, of 9,467,730 tons, of which 10,952, of 9,177,450 tons, were with cargoes and 851, of 290,280 tons, in ballast; cleared, 11,672, of 9,392,682 tons, of which 7,244, of 4,640,586 tons, were with cargoes and 4,428, of 4,752,096 tons, in ballast. Of the total number entered 3,267, of 2,354,100 tons, were Dutch and 8,536, of 7,113,630 tons, were foreign, and of those cleared 3,293, of 2,351,622 tons, were Dutch and 8,379, of 7,041,060 tons, were foreign. Of the vessels with cargoes 63.3 per cent. were entered and 49.4 per cent. cleared at the port of Rotterdam, 16.6 per cent. entered and 19.9 per cent. cleared at Amsterdam, and 7.2 per cent. entered and 14.1 per cent. cleared at Flushing. The merchant navy on Jan. 1, 1900, consisted of 432 sailing vessels, of 84,606 tons, and 192 steamers, of 236,118 tons.

Commerce and Production.—The area uncultivated in 1898, including building land, roads, dikes, marsh, and heath, was 895,722 hectares, and the cultivated area was 864,894 hectares under farm crops and 61,710 hectares in gardens and

orchards, while 249,886 hectares were covered with woods and 1,185,209 hectares were pasture. Rye, potatoes, oats, wheat, the sugar-beet, beans, barley, buckwheat, and peas are the most important crops, and flax, rape-seed, tobacco, and madder are some of the minor products. The production of wheat and rye is inadequate for the country's needs, 121,649,000 guilders in value of wheat having been imported in 1899, and 63,652,000 guilders of wheat and rye flour and 84,587,000 guilders of rye, offset by exports of 93,799,000 guilders of wheat, 10,525,000 guilders of flour, and 38,789,000 guilders of rye. The imports of barley were 27,687,000 guilders, and exports 20,292,000 guilders; imports of oats 22,842,000 guilders, and exports 19,049,000 guilders; imports of potato flour 5,401,000 guilders, and exports 14,273,000 guilders; imports of buckwheat 2,116,000 guilders, and exports 612,000 guilders; imports of flax, 1,100,000 guilders, and exports 12,507,000 guilders; imports of beets 52,000 guilders, and exports 2,730,000 guilders. Of bulbs, shrubs, and nursery stock the value of 493,000 guilders was imported and 6,064,000 guilders exported. Imports of vegetables were valued at 2,238,000 guilders, and exports at 40,585,000 guilders. The fisheries employed 5,661 vessels and 19,232 men in 1899, and the herring catch in the North Sea was valued at 5,626,068 guilders. About 40,000,000 oysters are produced annually, and a quarter of them are exported to England.

The total value of imports in 1899 was estimated at 1,916,000,000 guilders, and the value of exports at 1,583,000,000 guilders. The imports of grain and flour were valued at 322,533,000 guilders, and exports at 183,076,000 guilders; imports of iron and steel of all kinds were 171,226,000 guilders in value, and exports 112,810,000 guilders; imports of textile manufactures and materials were 123,547,000 guilders, and exports 90,023,000 guilders; imports of copper were 74,910,000 guilders, and exports 71,271,000 guilders; imports of timber and wood were 55,470,000 guilders, and exports 39,508,000 guilders; imports of coffee were 52,066,000 guilders, and exports 32,087,000 guilders; imports of rice were 58,017,000 guilders, and exports 25,295,000 guilders; imports of sugar were 19,245,000 guilders, and exports 52,887,000 guilders; imports of margarin were 20,628,000 guilders, and exports 48,854,000 guilders; imports of coal were 52,195,000 guilders, and exports 6,145,000 guilders; imports of hides and skins were 27,115,000 guilders, and exports 30,973,000 guilders; imports of saltpeter were 29,805,000 guilders, and exports 23,907,000 guilders; imports of oil-seeds were 30,348,000 guilders, and exports 12,968,000 guilders; imports of paper were 5,391,000 guilders, and exports 35,640,000 guilders; imports of tin were 20,809,000 guilders, and exports 17,581,000 guilders; imports of grease and tallow were 25,416,000 guilders, and exports 12,815,000 guilders; imports of paints were 17,622,000 guilders, and exports 13,317,000 guilders; imports of precious metals were 10,202,000 guilders, and exports 15,386,000 guilders; imports of zinc were 11,358,000 guilders, and exports 11,111,000 guilders; imports of butter were 1,282,000 guilders, and exports 20,379,000 guilders; imports of tobacco were 9,485,000 guilders, and exports 6,993,000 guilders; imports of cheese were 77,000 guilders, and exports 15,936,000 guilders; imports of flax were 1,100,000 guilders, and exports 12,507,000 guilders; imports of indigo were 5,387,000 guilders, and exports 6,484,000 guilders; imports of mineral oil were 12,041,000 guilders, and exports 70,000 guilders. The values are estimated, official records being taken of the weight of goods

only, which in 1899 reached the total of 25,270,000,000 kilograms for imports, 16,870,000,000 kilograms for exports, 999,000,000 kilograms in transit, and 4,647,000,000 kilograms in transit. Of the total estimated value of imports 509,185,000 guilders represent articles of raw materials, 984,000 guilders raw materials, 217,981,000 guilders manufactured goods, and 378,605,000 guilders miscellaneous merchandise; and of the total value of exports food products make 463,288,000 guilders, raw materials 310,288,000 guilders, manufactured products 220,308,000 guilders, and miscellaneous products 309,310,000 guilders.

The estimated values of special imports from and exports to the principal countries in 1899 were in guilders as follow:

COUNTRIES.	Imports.	Exports.
Prussia.....	303,500,000	806,200,000
Great Britain.....	277,000,000	348,700,000
Belgium.....	205,800,000	159,400,000
Dutch East Indies.....	289,100,000	68,100,000
United States.....	297,100,000	60,700,000
Russia.....	204,900,000	8,400,000
France.....	21,900,000	44,100,000
Hamburg.....	28,700,000	26,800,000
British India.....	45,400,000	
Italy.....		7,800,000

Railroads, Posts, and Telegraphs.—The railroads of Holland had a total length of 1,725 miles in 1899, of which 968 miles belonged to the Government, having been built at a cost of 270,509,000 guilders. The Government railroads in 1899 carried 11,733,000 passengers and 7,060,000 metric tons of freight, the total receipts being 23,306,000 guilders and expenses 18,939,000 guilders, while on the railroads of companies 16,131,000 passengers and 4,141,000 tons of freight were carried, receipts having been 18,060,000 guilders and expenses 13,890,000 guilders.

The post-office in 1899 transmitted 72,137,000 internal and 27,803,000 foreign letters, 43,429,357 internal and 8,422,313 foreign postal cards, 134,762,000 internal and 15,371,000 foreign newspapers, etc., 4,075,257 internal and 971,032 foreign parcels, and 1,300,476 internal and 1,160,583 foreign money-orders; receipts were 9,643,400 guilders, and expenses 7,291,577 guilders.

The state telegraph lines on Jan. 1, 1900, had a length of 3,689 miles, with 13,511 miles of wire. The number of private despatches in 1899 was 5,218,320; receipts were 2,031,945 guilders, and running expenses 2,346,482 guilders.

Politics and Legislation.—A project completing the reform of the army was before the States General in the early months of 1901. Gen. Eland proposed to remodel the army on the German pattern, the object being to secure the maximum number of fighting men at a minimum cost. Every youth not disqualified was to be trained as a soldier, the annual contingent being increased to 17,000 and the term of service with the colors reduced to eight months for the infantry and eighteen months for the cavalry. The Moderate Liberals approved the scheme; the Conservatives were strongly opposed to universal service and the general Germanizing of the army. It was proposed to replace the obsolete Schuttery, or militia, with a Landwehr, composed of men between the ages of twenty-six and thirty-four who had completed their term of service in the regular army and its reserve. The Landsturm would then be composed exclusively of officers and men pensioned after fifteen years of service in the army and the Landwehr. A reform so sweeping it was not proposed to carry out at once, but only gradually. An amendment passed by the Second Chamber limiting the maximum term in barracks to

eight and a half months led Lieut.-Gen. K. Eland to resign the Ministry of War on March 13. The term of eight months which Gen. Eland considered sufficient for the training of a soldier, an opinion in which the commanders of the army did not agree, was actually in force three years. Not wishing to bind his successors, he did not make the legal period eight months, but in the bill fixed it at twelve months, leaving it optional with the military authorities to reduce it to eight months if they deemed it unnecessary to keep the soldiers longer under arms. The Radicals in the Second Chamber, who agreed with the Minister of War, sought by their amendment to compel him to stand up for the principle that he had advocated and practised for years, and when he refused to take the responsibility, by carrying the amendment with 47 votes to 44 they compelled him to resign, the Catholics and the Socialists joining them in defeating the minister. J. A. Roell, the Minister of Marine, took the portfolio *ad interim* until it was given to Gen. Kool, who accepted the amendment subject to restrictions. The elections intervened before the questions connected with military reform were decided. In the municipal and provincial elections gains were made by both the Catholics and the Socialists at the expense of the old Liberal or Moderate party, indicating a reversal of the last verdict of the country, which gave the Liberals a clear majority of only 2, or 52 seats to 45 won by the Catholics and Protestants and 3 by the Socialists. The Liberal majority had already disappeared, they having lost 2 seats in by-elections to the Right, which was composed of 22 Catholics and 25 Anti-Revolutionists. The Liberal party was divided, the Moderate section having in February rejected a program embracing universal suffrage for both sexes, separation of church and state, and tariff reform, which caused many Radicals to join the Socialists or to stand aloof. The Left was split up into the Moderate Liberals, the Advanced Liberals, the Radicals, the Democratic Liberals, and the Social Democrats, all of whom put candidates into the field for the first ballot, the second ballot being confined by law to the two candidates who obtained the highest number of votes. A dwelling-house act, supplementary to a public-health act that previously became law, provides for the appointment of a commission of medical and lay members to inspect the houses of the poor and for the erection in populous centers of special dwellings having more rooms, more breathing space, and brighter surroundings than those now existing. A considerable proportion of the laboring people of Holland have been accustomed to live in houses consisting of one room and an attic. The bill empowers the parish councils to order the demolition of houses found to be insanitary and a menace to the health of the neighborhood. It passed the Second Chamber by a majority of 68 votes.

The general election took place on June 12, and resulted in a defeat for the old Liberals, who obtained only 27 seats, to 25 won by the Catholics and 30 by the Protestant Anti-Revolutionists, while the Historic Christians, organized in 1897 to protest against the Anti-Revolutionary alliance of Calvinists and Catholics which they afterward joined, obtained 12 seats, the Democratic Liberals 8, the Socialists 7, and the Christian Democrats 1 seat. The Liberals lost 13 seats and the Democratic Liberals 2, while the Protestants gained 8, the Socialists 3, the Catholics 2, and the Historic Christians 2. The Historic Christians joined the ranks of the Anti-Revolutionists, of whom 24 acknowledged Dr. Kuyper as their

leader, and 8 followed Savornin Lohman, who was Prime Minister in 1890. The new Chamber consisted of 58 members of the Right and 42 members of the Left. As soon as the final results were known the Cabinet tendered its resignation. The Queen sent for Dr. Kuyper, chief of the Anti-Revolutionary party and leader of the Opposition in the late Chamber. He had difficulty in forming a Cabinet. The Right was divided on questions of public policy, although Catholic and Calvinistic Clericals were generally faithful to their coalition at the polls in the last election, as the Catholics had been in the preceding one, although the Protestants then on the second ballots gave their votes to a Liberal in preference to a Roman Catholic. The Anti-Revolutionists were in favor of a moderate protectionist tariff, and hoped thereby to obtain funds for obligatory working men's insurance and pensions with state aid. The Catholics, who were not reconciled to either protection or the proposed social reforms, claimed three seats in the Cabinet. The Cabinet was constituted on July 28, a month having elapsed since the second ballot. It was composed as follows: Prime Minister and Minister of the Interior, Abraham Kuyper; Minister of Foreign Affairs, Baron Melvil van Lynden; Minister of Justice, Dr. Loeff; Minister of War, J. W. Bergansius; Minister of Waterstaat, Commerce, and Industry, Dr. de Marez Oyens; Minister of Finance, Dr. Harte van Teeklenburg; Minister of Marine, Vice-Admiral Kruys; Minister of the Colonies, Dr. van Asch van Wyck. M. Bergansius, who was Minister of War in former Anti-Revolutionary Cabinets from 1888 to 1891, was one of the Catholics appointed. The others were Dr. Loeff and Dr. Harte van Teeklenburg. The Socialists, who were largely instrumental in bringing about the sanitary reforms of the late ministry, crowned by the improved dwellings act forbidding the construction of houses without the statutory number of rooms, were deprived of the guidance of their energetic leader, M. Troelstra, who lost his seat in the elections and was replaced by M. van Kol. A considerable deficit in the budget placed the question of finance ahead of others and furnished the new Minister of the Waterstaat with a reason for withdrawing the great project of turning three-fifths of the bottom of the Zuider Zee into agricultural land and the rest into a fresh-water lake.

The length of canals in Holland is 1,907 miles, and of other navigable waters 3,000 miles. A project for draining the Zuider Zee and adding thus 750 square miles to the cultivable area of the kingdom has been under discussion for fifty years, ever since the Lake of Haarlem was reclaimed from the sea. The annexation of the Zuider Zee is a work of much greater magnitude, which may be carried out in sections, by enclosing one tract after another with dikes and pumping the water into the sea, or, once for all, by building a great barrier dike and proceeding to reclaim the enclosed area by instalments. The latter method was preferred, and plans were made for a dike to run from Wieringen to Piaam, the estimated cost of this part of the work being 28,000,000 guilders. To raise the sea-walls, compensate the fishermen of the Zuider Zee, etc., would bring the total cost up to 57,000,000 guilders. A large part of the Zuider Zee, 560 square miles, would remain, which would become a body of fresh water, supplying water for agricultural purposes to the adjoining districts and feeding the canals. The Minister of the Waterstaat, Mr. Lely, introduced a bill providing for the building of the great dam with sluices into the North Sea in nine years and the creation of two polders, or areas of dry

land, by means of steam-pumps, the smaller one to be completed in fourteen years and the other in eighteen years. The cost of reclamation increases the total estimate to 95,000,000 guilders, to be raised by loans, adding 2,000,000 guilders to the annual budget for sixty years. The ministerial crisis began before the Second Chamber had acted on the project. The new Government declined to assume responsibility for the great outlay involved, and therefore the project was indefinitely postponed.

The new Chamber assembled on Sept. 17. Queen Willemína opened the States General in person. The legislative program announced in the speech from the throne included measures for the revision of the law relating to Sunday labor, for the repression of gambling, for the restriction of drinking-places, and for imposing additional penalties for adulteration. Among social measures was a bill compelling insurance against accidents to workmen and against sickness and the infirmities of age. As regards fiscal measures the Government proposed to remodel the tariff so as to favor national industries. The colonial policy was not to be altered, the Government intending to persevere with the police measures in Achin in the hope of bringing about the complete pacification of that region. A commission was to be appointed to inquire into the expediency of reducing the military estimates without impairing the efficiency of the forces or prejudicing the national security. The introduction of quick-firing artillery was a matter of urgency demanding considerable sacrifices.

The Dutch East Indies.—Java and the other Dutch possessions in the East, after having been ruled for two centuries by the Dutch East India Company, have now for over a century been governed by the Netherlands Government. Subject to the general laws of the States General, the Governor-General, assisted by a Council, has authority to make laws and regulations. Java, with Madura, has an area of 50,554 square miles, and the population in 1897 was 26,125,053. The other possessions, known as the outposts, are Sumatra, Riau-Lingga, Banca, Billiton, the west, south, and east coasts of Borneo, Celebes, the Molucca Islands, the Timor Archipelago, Bali and Lombok, and the western part of New Guinea to 141° of east longitude. The total area of Dutch India is estimated at 736,400 square miles, and the total population at 34,090,000. The population of Batavia, the capital, in 1897 was 115,567, comprising 9,423 Europeans, 76,751 natives, 26,433 Chinese, and 2,860 Arabs and other Asiatics; the population of Soerabaya was 142,980, of whom 6,988 were Europeans and persons assimilated to them; population of Samarang, 84,266, including 3,355 Europeans. The natives are Mohammedans. Religious liberty is guaranteed by law, and 127 missionaries were engaged in propagating Christianity in 1898. There were over 290,000 converts in the outposts, but not 20,000 in Java. The number of pilgrims who went to Mecca in that year was 9,900, of whom 7,991 returned alive. For the education of Europeans and persons assimilated to them, who do not exceed 64,000 in number, there were 164 public primary schools, with 541 teachers and 14,955 pupils in 1898, and 7 higher schools, with 102 teachers and 1,016 pupils, and 20 private schools had 160 teachers and 3,122 pupils. For natives there were in Java and Madura 223 Government primary schools, with 43,094 pupils; 216 private schools, with 23,795 pupils; 5 normal schools, with 169 pupils; and 4 schools for the sons of chiefs, with 211 pupils. In the outposts 296 Government schools had 21,388 pupils

and 205 private schools had 10,696 pupils in 1897.

The revenue in 1900 amounted to 111,989,008 guilders, of which 40.4 per cent. was raised by taxation, 21.7 per cent. by monopolies of opium, salt, etc., 20.8 per cent. by sales of coffee, tin, cinchona, and coal, and 17.1 per cent. came from other sources. The expenditure amounted to 117,766,255 guilders, leaving a deficit for the year of 5,777,247 guilders. The budget estimates make the revenue for 1901 from receipts in the mother country 28,693,434 guilders and from receipts in the colonies 121,242,500 guilders, a total of 149,935,934 guilders. The expenditure in the mother country was estimated at 39,262,928 guilders and in the colonies at 119,622,455 guilders, a total of 149,885,383 guilders, giving a surplus of 50,551 guilders. The receipts in the mother country are 19,666,697 guilders from sales of tin, 5,063,945 guilders from sales of coffee, 277,200 guilders from sales of cinchona, 985,000 guilders from railroads, 2,150,000 guilders from the Billiton Company, being the Government's share of the annual profits, and 550,592 guilders from other sources. The receipts in India are 18,365,000 guilders from sales of opium, 18,486,000 guilders from import, export, and excise duties, 22,374,300 guilders from the land revenue, 6,383,300 guilders from sales of coffee, 9,507,000 guilders from sales of salt, 12,567,000 guilders from railroads, 3,182,000 guilders from the tax on trades, 2,865,000 guilders from coal, and 27,512,900 guilders from other sources. The cost of civil administration amounts to about a third of the revenue, and the military and naval expenditure absorbs another third.

The military force at the beginning of 1899 consisted of 1,428 officers and 42,235 non-commissioned officers and privates. The commissioned officers are Europeans, and the rank and file consisted of 15,911 Europeans, 50 Africans, 4,434 Amboinese, and 21,840 natives. In the native companies half or more of the non-commissioned officers are Europeans. Soldiers of the Dutch army are allowed to enlist in the Indian army if they have the permission of their commanding officers. All the gunners and a good part of the cavalry are Europeans, and in the infantry one or two of the four companies in each battalion are composed of European soldiers, the other companies being native with European officers and instructors. There is a military academy near Batavia, and a school for the instruction of soldiers is attached to every battalion. The naval force consists of 20 vessels belonging to the colonies, manned by 1,350 Europeans and 750 natives, and 4 vessels furnished by the Netherlands Government, manned by 1,000 Europeans and 200 natives.

The Government land regularly cultivated by natives in 1898 was 6,838,533 acres in Java and Madura, and the total area under cultivation was 9,798,764 acres, of which 5,202,957 acres were planted to rice, 4,046,816 to corn, peanuts, cotton, and various other crops, 246,372 acres to sugarcane, 252,835 acres to tobacco, and 49,784 acres to indigo. The lands alienated by the Government prior to 1816 are 2,120,584 acres now owned by Europeans, and 504,001 acres owned by Chinese and other Asiatics. Unoccupied lands are granted on hereditary leases for seventy-five years, and of such 893,478 acres were taken by 752 European companies and individuals, 30,019 acres by 46 Chinese, and 1,488 acres by 5 natives in 1898. The yield of sugar in 1898 was 1,538,701,400 pounds. The yield of coffee was 17,676,800 pounds on Government lands, 9,814,800 pounds by free native cultivation, 27,973,600 pounds on leased lands, and 5,104,400 pounds on private lands;

total, 60,569,600 pounds, against 156,503,866 pounds in 1897. The yield of cinchona was 306,696 kilograms on 3 Government plantations, 3,817,234 kilograms on 83 plantations held on hereditary lease, and 337,824 kilograms on 3 plantations owned by the planters. There were 110 tobacco plantations in Java, producing 18,418,575 kilograms, and in Sumatra and other islands 115, producing 20,527,171 kilograms. The production of tea in Java was 4,757,168 kilograms; of indigo on 146 plantations, 1,094,225 kilograms. The output of tin in the Government mines of Banca and the leased mines of Billiton and Riau was 17,703 tons; the output of the coal-mines of Java, Sumatra, and Borneo, 162,760 tons; the production of mineral oil, 311,396,492 liters. The Government imports of merchandise in 1898 were 6,563,279 guilders in value and of treasure 1,600,000 guilders, and private imports of merchandise were 160,861,010 guilders and of treasure 10,797,143 guilders; total imports, 179,821,432 guilders. The Government exports were 13,560,199 guilders of merchandise, and private exports were 202,996,658 guilders of merchandise and 1,197,240 guilders of treasure; total exports, 217,754,097 guilders. Of the exports, with the exception of rice, half of which goes to Borneo and China, about 80 per cent. are shipped to Holland. In Dutch Borneo are diamond fields containing gems of purer water than those found in South Africa. The mining company holding the concession made an agreement with the De Beers corporation of Kimberley that it would take out no diamonds for a certain term of years in return for a fixed annual payment of money. In 1901 this agreement ran out, and the Dutch company began the working of its diamond fields at Martapura.

The number of vessels entered and cleared at the ports of the Dutch East Indies during 1898 was 4,164, comprising 168 sailing vessels, of 86,730 tons and 3,996 steamers, of 1,574,238 tons.

The length of railroads in operation on Jan. 1, 1899, was 1,272 miles, and their receipts for 1898 were 15,759,000 guilders. The number of internal letters that passed through the post-office in 1898 was 8,672,352; of newspapers, periodicals, circulars, and samples, 6,370,780; of foreign letters, 1,512,289. The length of telegraph-lines at the end of 1898 was 6,833 miles, and the number of messages sent during the year was 637,389. The three chief cities have been connected by telephones since 1896.

The military policy in Achin was changed in 1898 for one more vigorous. While the Dutch acted on the defensive they were exposed to frequent surprises on the part of the enemy. Although they succeeded in repelling attacks, the subjugation of territory proceeded slowly. When they assumed the aggressive again and adopted the method of exhausting the Achinese rebels by incessant sudden incursions into their territory they made rapid progress in the interior and gained possession of the valley which connects northern Sumatra with the eastern coast, which has been the field of their latest operations. They captured 7 important positions without suffering any loss, the garrisons retiring in every instance on being taken by surprise. Batoeilik, a strong fortress, was the only place that still held out. It was regarded by the natives as impregnable. Early in 1901 a strong expedition was sent into Samalanga which captured Batoeilik by storm with a loss to the Dutch of 6 men killed and 4 officers and 36 men wounded, while of the Achinese 70 fell. The Dutch followed up their victory, the moral effect of which was apparent in the weakened resistance of the rebels. Early

in March the Dutch troops stormed Pajaruebec, on the west bank of the Pedri, killing 77 Achinese and driving the rest into the river, in which many were drowned, themselves losing 2 killed and 8 wounded. The rebellion was practically ended by this success as far as it was organized and conducted by the leaders who had long defied the Dutch. In the beginning of August the claimant to the sultanate of Achin was discovered in his hiding-place and wounded in effecting his escape.

Guiana.—Dutch Guiana, or Surinam, is administered by a Governor, assisted by a Council of official and nominated members and in legislative matters by the colonial States, part elected and part appointed for each session by the Governor. W. Touckens was Governor in 1901. The colony has an area of 46,060 square miles and a population estimated in 1898 at 66,490, not counting tribal Indians and the forest negroes, descended from runaway slaves, numbering about 12,000. Paramaribo, the capital, had 31,200 inhabitants. Among the population of the colony in 1896 were 9,698 Hindus and 2,681 Mohammedan East Indians. There were 1,250 Jews. Moravian Brethren form the great majority of the Christian population. The revenue collected in the colony in 1900 was 2,296,000 guilders, which was supplemented by a contribution of 128,000 guilders from the Dutch Government to meet the expenditure, amounting to 2,424,000 guilders. The garrison in 1898 was 19 officers and 327 men, and the local militia and civic guard number about 90 officers and 2,000 men. There are 8 sugar plantations, covering 1,704 hectares, which produced 1,217,798 kilograms in 1898. The cacao plantations, numbering 78 and having a total area of 13,960 hectares, produced 2,706,338 kilograms. The yield of bananas was 532,096 bunches. Of coffee 389,389 kilograms were produced; of rice, 136,270 kilograms; of corn, 345,342 kilograms; of rum, 1,057,601 liters; of molasses, 1,545,460 liters. There were 351 concessions for gold-mining granted up to the end of 1898, and in that year 864,990 grams of gold were shipped, value 1,136,606 guilders. The total value of imports in 1898 was 5,703,427 guilders; of exports, 5,211,323 guilders. The number of vessels in the foreign trade entered during 1898 was 273, of 143,938 tons; cleared, 271, of 142,004 tons. Another Dutch colony in America is the island of Curaçao (see WEST INDIES).

NEVADA. (See under UNITED STATES.)

NEW BRUNSWICK, an eastern province of the Dominion of Canada; area, 28,100 square miles; population in 1901, 331,093. Capital, Fredericton.

Government.—The Liberal Government of 1901 in this province was a continuation of that formed by the Hon. A. G. Blair on March 3, 1882. Upon accepting the post of Minister of Railways and Canals at Ottawa, Mr. Blair was succeeded, on July 17, 1896, by the Hon. James Mitchell, and upon the latter's retirement, on Oct. 29, 1897, the Hon. H. R. Emmerson became Prime Minister. On Aug. 31, 1900, Mr. Emmerson retired in order to enter Dominion politics, and was replaced by the Hon. Lemuel John Tweedie. The Conservative minority in the house was very small. The Government at the opening of 1901 stood as follows: Premier and Provincial Secretary and Treasurer, L. J. Tweedie; Attorney-General, William Pugsley, K. C.; Surveyor-General, A. T. Dunn; Commissioner of Public Works, C. H. Labilloy; Commissioner for Agriculture, L. P. Farris; members without office, S. H. Hill and H. A. McKeown.

Legislation.—The third session of the thirty-first Legislature of New Brunswick was opened

by Lieut.-Gov. the Hon. A. R. McClellan on Feb. 28. Sombre drapings in the Chamber indicated the mourning of the people's representatives for their late sovereign. The speech from the throne was a long document, of which the most significant portions were these:

"The prompt and effective assistance given by Canada in the South African struggle has shown in a very practical way the loyalty of the people to the British Crown and policy; and we can not fail to notice the fact that the conduct of our own provincial volunteers has been so favorably recognized and appreciated.

"The subject of technical education, involving instruction in agriculture, mining, and the mechanic arts, in respect to which the Legislative Assembly gave authority to enter into arrangements with the governments of Nova Scotia and Prince Edward Island, has during the recess engaged the earnest attention of my Government. After very careful consideration, it has been concluded that the establishment of a school, properly equipped, for the purpose of giving instruction in mining and the mechanic arts, would involve an expense which, with the limited resources of the province, it is not advisable to undertake. My Government has felt it desirable, however, that provision should be made for the establishment of a school of agriculture and horticulture, and a definite understanding has been arrived at with the governments of Nova Scotia and Prince Edward Island in reference to this subject, the details of which will be submitted to you. I think you will agree with me that this project is of great importance, because of the fact that the permanent prosperity of our province depends largely upon its agricultural development. With the generous assistance of the Legislature in the past, a great deal has been done for the improvement of our farming population, the policy of encouraging the dairying and other agricultural industries of the province having resulted in the greatest possible benefit; and you may rest assured that the same vigorous and progressive policy which has been pursued in the past in this direction will be continued.

"In accordance with the desire which has been shown by the Legislature to encourage the establishment of cold-storage warehouses at central points in the province, my Government has given the subject very careful consideration, and it is intended to submit for your approval a measure which will insure the immediate erection at the port of St. John of a large and thoroughly equipped cold-storage warehouse, and which, it is also hoped, will lead at an early day to the establishment of smaller warehouses in various sections of the province.

"The recent scarcity of coal, and the great increase in price, have directed the attention of my Government to the possibility of developing the valuable coal areas lying in the counties of Queens and Sunbury; and a measure having this end in view will be submitted for your consideration.

"The law relating to the great roads and by-roads of the province has not been found entirely satisfactory, and you will be asked to consider whether it would not be desirable to adopt a system which will abolish the distinction between the two, and thus enable all the important highways of the province, irrespective of whether they may have formerly been on the list of great roads or by-roads, to be maintained in proper condition.

"During the past year the financial resources of the province have been taxed to an unusual extent by reason of the smallpox epidemic, which

called for immediate and effective measures on the part of my Government and the provincial Board of Health, as well as the local boards in various sections of the province. I am happy to say that the energetic measures which have been prevented the spread of the epidemic, and for this reason to believe that it will soon be effectually stamped out.

"During the year my Government was called upon to assist the sufferers by a disastrous fire which occurred in the village of St. Martins, in the county of St. John; and also a number of families which were deprived of their support by the terrible loss of life which occurred among the fishermen in the county of Gloucester through the violent storms which prevailed in the Gulf of St. Lawrence during last autumn. It is hoped that the steps which were taken by my Government to assist in relieving as far as possible the suffering caused by these disasters will meet with your approval. The Board of Works was called upon during the past year to incur an extraordinary outlay, by reason of great damage caused to many roads and bridges throughout the province by the unusual freshets. A statement of these extraordinary expenditures will be laid before you.

"Certain irregularities and wrongdoing which have occurred in connection with the list of non-resident voters of the parish of Rothesay, in the county of Kings, have made it necessary that legislation should be enacted to provide for a proper and legal list and to prevent the occurrence of such evils in the future. A measure having this end in view will be submitted for your consideration.

"In opening the last session of the Legislative Assembly, it afforded me great pleasure to convey to you the information that the claim of the province against the Dominion arising out of the Eastern Extension Railway matter, and which had been so long in controversy, had by agreement between the two governments been referred to three competent and disinterested persons, mutually chosen, for final adjustment and settlement. And it is now my pleasing privilege to inform you that the award of the arbitrators has been made, and that it recognizes the justice of the claim which the province has for so many years been pressing upon the attention of the Dominion authorities."

Clifford William Robinson was elected Speaker of the House without opposition. He has been member for Westmoreland since 1897, and was formerly mayor of Moncton. The house adjourned April 3.

Finances.—On March 18 the Hon. Mr. Tweedie presented the annual budget. The receipts of the province for 1900 were \$758,988; the estimates had been \$745,191. The chief increase was in the succession duties, which realized \$39,522. The Dominion subsidies amounted to \$483,491; the territorial revenue was \$175,818; the taxes upon incorporated companies realized \$25,352; the liquor licenses brought in \$21,628. The expenditures totaled \$794,476, showing a deficit of \$35,488. Against this, however, were the unusual expenses of \$24,000 in connection with the suppression of smallpox, the \$5,000 spent on the South African contingent, and \$10,484 expended on the bridge inquiry. The net debt of the province on Oct. 31, 1900, was \$2,851,068, as against \$2,736,298 in the preceding year. The increase during the year was, therefore, \$114,788. For 1901 Mr. Tweedie expected better returns, and estimated the revenue at \$1,030,491 and the expenditure at \$808,424. Included in the revenue estimates were \$483,491

for Dominion subsidies, although this figure might be increased as a result of the census; \$270,000 for the Eastern Extension claim and final payment; taxes on incorporated companies, \$25,000; succession duties, \$25,000; liquor licenses, \$21,500; miscellaneous, \$20,500. The estimated expenditures included \$17,525 upon the administration of justice; \$34,526 upon agriculture; \$206,494 upon education; \$30,070 upon executive government; \$124,000 upon the interest on bonded indebtedness; \$8,000 on immigration; \$11,000 upon public health, and the same amount on public printing; \$20,327 upon the Legislature; \$61,543 upon lunatic asylums and \$7,600 upon public hospitals; \$296,077 upon public works; miscellaneous expenses, \$38,300. Mr. Tweedie concluded his speech on March 19 with a declaration that the province was in a good financial condition.

James K. Fleming replied in behalf of the Opposition. He declared that it had become the custom to claim a surplus year by year, whether there was one or not. On this occasion, however, the Premier and Provincial Secretary had to admit the deficit, though he tried to excuse it by practically declaring that the finances were in such a shape that the slightest outside call would create indebtedness. He pointed out the steady increase in expenditures from \$727,186 in 1897 to \$794,476 in 1900, and asked how this was going to be met. Even with this increase, the great public interests were being starved. Education received this year \$4,044 less than in 1897, and public works received only \$2,000 more than four years previously. So with agriculture, which showed an increase in that period of only \$4,864. Meanwhile the revenue had only risen from \$745,212 to \$758,988—a much smaller increase than was shown in expenditures. The revenue from lumber cut on the Crown lands had, it was said, increased from \$96,264 in 1899 to \$112,315, but he believed that in the following year the lumber cut would be about one-third less, and the estimate of \$100,000 from this source was therefore excessive. Mr. Fleming then dealt with what he termed the Government's system of direct taxation—succession duties, liquor licenses, taxes on banks, fire and life insurance companies, accident companies, telegraph, telephone, and loan companies, street-railways, etc.—amounting to \$91,282. He did not think that this money came out of the pockets of rich corporations, as the Government said. The banks took it out of their customers and the insurance companies out of their policy-holders. The people really paid their taxes. As to the public debt, he declared that at the present rate of increase the interest charge in four years would amount to \$16,695. He criticized the salaries and additional sums paid to ministers, and declared that if the present system of open corruption in the construction of street bridges—which the Opposition had so long urged—had been previously adopted, \$35,000 would have been saved in the past four years.

The Rothesay List.—One of the most discussed political questions in the Legislature and the province in 1901 was an apparent attempt to stuff the voters' list of the parish of Rothesay in Kings County. Under the New Brunswick franchise act, non-residents who own \$100 worth of real estate in any constituency are entitled to a vote, and early in the year it was found that 406 names had been added to the list of non-resident voters for Rothesay. Nearly all the names were said to be those of Government supporters, and many of them said, as soon as the matter became public, that they did not own any property in Kings County, had not applied for

registration, and did not know they were registered as voters. The names were listed by three revisers, one of whom declared that their signatures to this list were taken from a genuine one prepared by two of them and attached to the fraudulent one by the third reviser without the knowledge of the other two. The Conservative papers took up the matter in terms of strong denunciation, and endeavored to connect the party organizers and the Government with it. They pointed out that no property changes appeared to have taken place in Rothesay during the year, and that if they had it would have been hard work to find \$40,000 worth of unimproved land in the parish.

On Feb. 22 the subject came before the provincial Supreme Court at Fredericton, and the fraudulent electoral list was unanimously quashed. One effect of this judgment was to sweep away both the spurious and the genuine list and leave Kings County without a member for the ensuing session of the Legislature. The Attorney-General at once announced that legislation would be introduced to remedy the wrong and to prevent its repetition.

Steel Ship-building.—In the early part of the year St. John followed the example of Halifax in discussing and encouraging the establishment of this industry. Members of the city council met the promoters of a local company and the papers spoke warmly in favor of the project. On March 5 Mayor Daniel informed the council that among the promoters was J. H. Thomson, of William Thomson & Co., of St. John, who had confidence in local facilities for this industry. He understood that \$100,000 had already been subscribed in St. John for a new company. Their proposed policy was to have a shipyard in which 4 large vessels could be constructed at one time and in a single year. The number of men employed would be 1,500, and the estimated expenditure per vessel about \$240,000. Speaking in Montreal, on March 19, Mr. Thomson declared that during the last five years his firm had built upon the Clyde 9 steamers of the Ballie line and had 5 more under construction. This represented nearly \$3,000,000 expenditure, of which 95 per cent. was Canadian money. The Clyde firms were behind the Americans in speed, and the industry could be carried on better at St. John. Harry Harding, of St. John, one of the most active promoters of the new project, was also interviewed at Montreal. He declared that the capital of the new company would be \$3,000,000, that its location would depend upon the encouragement given locally, and that it was not impossible that the requirements of the near future might justify a plant at Halifax, one at St. John, and another at Sydney. Finally, the city council decided to offer aid to the extent of \$100,000, a free site, and exemption from taxation, to any company engaging in the business of building steel ships in that city. The Legislature was asked for the power to make these arrangements, and this was granted subject to a limitation of the right to manufacture engines and machinery to the requirements of the company for their own vessels.

Railways.—On March 5 the Hon. Mr. Tweedie introduced a measure in the Legislature for the construction of a line of rail in the counties of Queens and Sunbury, running from the terminus of the Central Railway, at Chipman, to a point opposite Fredericton, on St. John river. The object was to enable the large areas of coal in these localities to be developed. The Government undertook to guarantee the principal and interest of the first-mortgage bonds of any company au-

thorized to construct such a line, the amount not to exceed 55 per cent. of the actual cost of the company's railway, rolling-stock, and plant, and limited in amount to \$250,000. The rate of interest was not to exceed 3 per cent., and no part of the guarantee was to be paid until the road was completed and properly equipped. The net profits were to be applied to the interest on the bonds and the creation of a sinking-fund. The company was to establish on the line of railway a plant for mining coal capable of producing an average of not less than 500 tons a day. All railway companies hereafter receiving subsidies from the province were, the Premier declared, expected to bind themselves to use New Brunswick coal if obtainable at reasonable prices. The Government was further authorized under this enactment to impose a tax on the company and upon all other railway companies to an amount not exceeding 3 per cent. of their gross yearly earnings made within the province, and less any Government royalty paid on the coal consumed by the railway or industries established along its line. The guarantee was to be made subject to the Government being satisfied that 150,000 tons per annum could be mined in this region; the railway was to pay a royalty of 10 cents a ton on all coal mined on granted lands and 15 cents a ton on coal mined on Crown lands; the contract was to be entered into before Jan. 1, 1902.

Other legislation in this direction was the assistance given to 3 roads which were said to be much needed. One ran from Shediac to Cape Tormentine; another ran from Foreston, on the Canadian Pacific Railway, in Carleton County, and was intended to reach the headquarters of the Miramichi, and thus give a stimulus to lumbering and milling operations; the third was from a point on the St. Francis branch of the Temiscouata Railway, running to the Quebec boundary and forming part of an ultimate through trunk line from western seaports to the Maritime Provinces. To this Quebec and New Brunswick railway grant two important conditions were attached. New Brunswick coal was to be used upon the entire system.

Mines.—In his official report for 1900, issued toward the end of the year, A. T. Dunn, Surveyor-General of the province, declared that greatly increased interest was being shown in the mineral development of New Brunswick. The Intercolonial Copper Company, at Dorchester, had been specially active, a large quantity of ore had been mined, and substantial buildings erected. Recent investigation had shown their copper to be of very great extent. The coal resources of the province had received close attention from the Government, and investigations were going on in various directions. So with oil explorations and manganese mining. The amount received from mining licenses during the year was \$2,576. The official figures of the Government, published in 1901, showed a production of 10,000 tons of coal in New Brunswick in the previous year and an export of only 107 tons. The import of coal from Nova Scotia was at the same time 455,301 tons. There was \$145,850 worth of gypsum produced in the year.

Education.—The official figures regarding education in New Brunswick, as given by the Dominion statistician in 1901, put the number of schools in the term ended June 30, 1900, at 1,771, a decrease of 44; and the teachers numbered 1,856, the pupils 61,444, and the average attendance 37,529. The teachers in the grammar schools were 35 in number, and the pupils 946. In the

normal schools there were 201 female pupils and 55 male. The Government grant for the year was \$194,112, the aid given by municipalities amounted to \$90,361, and the assessment upon school districts was, approximately, \$100,000. This indicated a total revenue for the purpose of \$631,372. The total expenditure was \$605,184. In the Legislature the most important matter during the year in this connection was a grant to the University of New Brunswick in aid of its new science building.

Agriculture.—On March 20, L. P. Farris, Commissioner for Agriculture, reported to the house upon various matters connected with that interest. Three new agriculture societies had been organized in the year 1900, making the number 59, with a membership of 4,539 and subscriptions of \$6,361. Six new roller-mills had been erected, making a total of 19. Of wheat, 504,301 bushels had been grown at an average slightly over 18 bushels to the acre. The oat crop also showed an increase over the preceding year, and the total production was 5,281,690 bushels, or an average of 29½ bushels to the acre. The cheese factories in operation were 54, making 1,882,432 pounds of cheese at a value of \$189,706—an increase of \$32,200 over the preceding year. There had been 33 butter factories in operation, producing 462,606 pounds, valued at \$94,618. This was also an increase—\$36,124 in amount. The value of cheese and butter exported was \$170,000, out of \$284,324. There had been 73 meetings of farmers' institutes, attended by 10,322 persons. It was now proposed to extend the work of these associations. The house then passed in committee \$2,500 for institute meetings, \$4,500 for the encouragement of dairying, and about \$3,000 for specified agricultural purposes.

The official report of Mr. Farris for 1900 contained a large amount of information in this connection, and was issued at Fredericton under date of Jan. 1, 1901. The commissioner began by reporting "a successful year for every branch of industry," and that the province "seems to be in the most prosperous condition it has been in for years." The South African War had brought a great demand for hay and oats at fair prices, and cheese and butter found a ready market in England. In fact, since the opening of the war "every manufacturing industry in Canada making goods wanted by England has had a preference over other countries." Buckwheat had been a light crop for two successive years, and fruit-raising had been steadily developing. The increase in the output of pork-packing establishments had been marked, and every effort was being made to encourage the production of the bacon hog as bringing a better price than heavy pork. More attention had been given to the hitherto neglected matter of poultry-raising, and chicken-fattening stations had been formed in different parts of the province.

Public Works.—According to the report of the Commissioner of Public Works, issued in March, the expenditure upon main roads and bridges in 1900 was \$93,067; upon by-roads, \$68,345; upon permanent bridges, \$65,499; upon legislative and other buildings, \$8,354. The total expenditure of the department was \$254,906. The main roads of the province covered 2,345 miles. The report of the Surveyor-General showed receipts for 1900 amounting to \$175,818, of which the renewed timber licenses totaled \$37,028, the stumpage dues were \$112,315, the fishing licenses \$8,822, and the hunting licenses \$8,266. According to a statement made in the Legislature on March 11 by the Hon. Mr. Tweedie, the total

amount of bonds issued for permanent bridges in the province was \$729,280.

NEWFOUNDLAND, colony of, an island near the Atlantic coast of Canada, owning allegiance to Great Britain but possessed of full self-government. The population is about 210,000; the area, 42,200 square miles besides a stretch of the Labrador coast. Capital, St. Johns.

Government and Politics.—The Governor is appointed by the Crown; the ministry consists of 7 members, the Legislative Council of not more than 15, appointed for life, and the House of Assembly of 36 members elected by manhood suffrage vote every four years. The general elections of Nov. 8, 1900, turned upon a railway contract entered into with R. G. Reid, which made him practical owner of the railway system of 640 miles, the telegraph system of 1,000 miles, and the great dry dock at St. Johns, as well as of the mail steam subsidies for thirty years, 4,500,000 acres of the best lands in the colony, and the electric tramway, light, and power franchises of St. Johns. These interests Mr. Reid proposed to hand over to a joint-stock company with \$25,000,000. Mr. Bond, the Liberal leader, objected to such great powers being given away, and had succeeded in defeating the Government of Sir James Winter. He had formed a ministry on March 8, and at the general elections he won by a large majority. On Dec. 7 his Government was reconstructed as follows: Premier and Colonial Secretary, Robert Bond; Minister of Justice, William Horwood; Minister of Finance, E. Jackman; Leader of the Legislative Council, George Knowling; members without office, E. P. Morris, Augustus Harvey, James Pitts, Henry Woods, James D. Ryan. Eli Dawe, Minister of Agriculture, Thomas Murphy, Minister of Fisheries, and George Gushue, Minister of Public Works, were members of the Government, though not in the Cabinet. An early event of the year was the transfer of Lieut.-Col. Sir Henry E. McCallum, K. C. M. G., the popular Governor of Newfoundland, to Natal. He was succeeded by Sir Cavendish Boyle, K. C. M. G., lately Administrator of British Guiana. The latter arrived at St. Johns on June 16. Meanwhile the first session of the nineteenth General Assembly of Newfoundland was opened by Gov. Sir H. E. McCallum, on Feb. 22, with a speech from the throne, of which the following was the significant portion:

"The temporary act for giving effect to the treaties between Great Britain and France in relation to fishery rights on a portion of the coast of this colony expired on the 31st day of December last. The Secretary of State for the Colonies has invited my ministers to send a delegation to London to confer with his Majesty's Government on the subject of the treaty question preparatory to the opening of negotiations by his Majesty's Government with the Government of France, with a view to a final settlement of the matters in dispute. My ministers have complied with the invitation. Pending the negotiations, his Majesty's Government asks that your Legislature continue the present act for the ensuing season, and I have, upon the advice of my ministers, summoned this session for the special purpose of submitting the matter for your immediate consideration."

The proceedings of the session were very brief. Mr. L. O'B. Furlong was elected Speaker of the Assembly, and an address to the King was passed by both houses expressive of loyalty to the sovereign, pride in the empire, deep regard for the memory and life of Queen Victoria, and pleasure in the coming visit of the heir apparent and his wife. The *modus vivendi* bill reenacting the legis-

lation regarding the French shore treaties was passed. On Feb. 25, A. B. Morine, K. C., leader of the Conservative Opposition, moved the following resolution:

"Whereas, The leader of the Government, in his manifesto prior to the late general election, pledged his supporters to a reduction of customs duties on imports; and Whereas, The current revenue of the colony exceeds its current expenditure; and Whereas, The rate or duty of 10 per cent. on certain customs duties was enacted and levied at a time when the expenditure of the colony exceeded its revenue, and only for the purpose of avoiding a deficit, which desirable object it accomplished; and Whereas, Any reduction of duties, to have full beneficial effect upon the people of the colony in this present year, should operate upon the spring importations; Resolved, (1) That in the opinion of this house a measure reducing certain customs duties should be enacted; (2) that the rate of 10 per cent. on duties should be abolished; (3) that the duty on molasses should be reduced by 5 cents a gallon; and (4) a prorogation or lengthened adjournment of the Legislature, prior to the enactment of reductions, will be regarded as a breach of faith with the electors."

Mr. Morine denounced the Government for breaking pledges, and urged other arguments in favor of his motion. It was defeated, however, by a vote of 23 to 3. On Feb. 28, Sir H. E. McCallum prorogued the Legislature.

The regular session was opened on May 23 by Chief-Justice Little, with a speech from the throne, of which the following were the important passages:

"Since the session of the Legislature last year a general election has taken place, and has resulted in a very strong announcement in favor of the policy of my Government.

"During the past year our fisheries have been prosecuted with a large measure of success. The shore codfishery resulted in a full average in quantity, and it is gratifying to know that the cure was better than usual. The Labrador fishery, on the other hand, resulted in a smaller catch than in either of the two previous years, principally owing to the presence of ice to a very late period on the coast, which not only prevented the crews from fishing during what is usually the most productive part of the season, but also destroyed a great deal of fishing gear, thus depriving the fishermen of the means of catching fish even after the ice had finally left the coast. The price of codfish opened satisfactorily and continued exceedingly good in most of our foreign markets, and thus contributed toward what may be considered, on the whole, a prosperous year's business. The seal fisheries of 1900 and 1901 were very successful. The lobster fishery appears to be gradually failing, and from the experience of other countries, as well as our own, it would appear as if this fishery will be entirely destroyed, unless some more vigorous measures than we have heretofore tried be adopted for its protection. The prices realized were high during the whole season, but the quality of the pack left much to be desired and reduced considerably the total value of the catch. The salmon fishery, compared with recent years, proved an average one, but as an article of trade our salmon is being driven out of foreign markets by the Pacific coast salmon. The latter, though a much inferior fish for table use because of its coarseness and toughness, is enabled by these very qualities which cause its inferiority to better withstand the rough handling incident to its transportation by land

and sea. The herring fishery on the coast of this island was one of the smallest on record.

"Agricultural operations resulted satisfactorily, and the crops were well above the average.

"Owing to the strike at Bell island in the summer of last year the quantity of iron ore exported from that place fell much short of the export of the previous year. The products of our mines generally, however, while not equal in value to those of the year immediately preceding, were in advance of those of previous years, and yielded handsome returns.

"The exports of lumber last year showed a marked increase, and during the present year lumbering operations are being carried on on a much extended scale.

"The customs revenue for the year ending June 30 last was in excess of the estimate. I have directed the estimates for the year to be prepared and forwarded to you without delay. You will be asked to make suitable provision for the reception of their Royal Highnesses the Duke and Duchess of Cornwall and York when they visit the colony in October next.

"The movement for the establishment of a naval reserve among our fishermen has met with a promising measure of success. During the past year 51 of our naval reservists went into training for six months on board H. M. S. Charybdis, on the West Indian station, and their services and conduct won the appreciation of their commanding officers. In a communication received by me from the commodore, he says: 'We all consider them to be now a useful and efficient body of men, who would be a formidable addition to our personnel. So well have they done that I have been able to advance 40 to the higher rating of qualified seamen.'

"In response to an application made by my ministers, his Majesty's Government has offered to send H. M. S. Calypso, to be permanently stationed here for use as a training-ship for Newfoundlanders who enlist in the Royal Navy Reserve, and arrangements have been made whereby fishermen entering the service can take the prescribed four weeks' period of training during the winter months, so as not to interfere with the pursuit of their ordinary vocations. My Government has dutifully acknowledged the liberality of his Majesty's Government in this matter, and has undertaken to instal a system of steam-heating and to make other necessary internal alterations in the ship required for the accommodation and comfort of our royal reservists.

"My ministers have had under their consideration the question of revising the tariff, with a view to effect such changes as will remove its present inequalities and secure a more equitable distribution of taxation. They hope to be able to submit proposals for such a reduction of the taxes at present imposed on several of the necessities of life as can be made consistently with providing a sufficient revenue for the maintenance of the public service.

"A matter calling for the serious consideration of the Legislature is the increasing scarcity of coal and its consequent advance in price, placing it beyond the means of many of our people. It is highly important that steps should be taken without delay to ascertain as fully as possible the extent and value of our own coal areas, and to this end I trust due provision will be made in the estimates during the present session.

"The question of reciprocity between this colony and the United States of America is receiving the attention of my ministers. At the re-

quest of his Majesty's Government, the Premier of this colony visited Ottawa to discuss with the Government of the Dominion of Canada the grounds of objections that were raised by the latter to separate and distinct negotiations."

The legislation of the ensuing session, which lasted until Aug. 2, included a revenue act, a Crown lands act, a marine court of inquiry act, a quarter-sessions act, the important railway amendment measure, a judicature (amendment) act, a measure relating to education, a convention act relating to property owned by deceased foreigners, an oaths act, a measure relating to life insurance companies, an election (amendment) act, a measure fixing the salaries of district court judges, an inflammable oils act, an intoxicating liquors (amendment) act, and measures relating to the preservation of beavers, the organization of fire brigades, and to customs, pensions, and public finances.

Visit of the Heir Apparent.—The Duke and Duchess of Cornwall and York arrived, on Oct. 23, at St. Johns, the last stopping-place in an empire tour of 50,000 miles by sea and land. The royal yacht Ophir had been convoyed from Halifax by 4 British men-of-war, and St. Johns was found to be profusely decorated, while the harbor was filled with 600 fishing vessels manned by 30,000 fishermen, and all gay with flags and bunting. The first function was a dinner given on board the yacht by his Royal Highness in the evening, at which Gov. Sir Cavendish Boyle, the Premier, and other dignitaries were present. During and after this function the town fairly blazed with illuminations and fireworks, while the warships in the harbor were electrically lighted, 15 sealing steamers moored in a long line glowed with festoons of marine lanterns, and a myriad of other fishing vessels were bright with varied lights. In St. Johns a thousand torch-bearers paraded the streets, while bonfires flamed out from the surrounding hills. The formal reception began on the succeeding day. The Government had obtained a grant of \$15,000, and private citizens had made up a fund with contributions ranging from \$2 to \$2,000. Five arches had been erected in the capital, including a very fine one by Mr. R. G. Reid. At eleven o'clock on the morning of Oct. 24 the royal couple landed, and the procession to Government House took place through streets lined with sailors and marines from the fleet. There an address was presented by Sir W. V. Whiteway, Chairman of the Citizens' Committee, and replied to by the duke. The Governor then presented the people's gift, consisting of two splendid caribou heads, mounted, for his Royal Highness, and two albums containing photographs of natural scenery for the duchess. Lady Whiteway, for the women of the colony, also presented the latter with a handsome mink carriage rug. At the new court-house the duke laid a commemorative stone, and at the Princess Rink the royal couple listened to songs of welcome from 4,300 children and accepted a Newfoundland dog-harness and cart for their own children at home. In the afternoon a reception was held at Government House and 500 citizens were presented, and in the evening Sir Cavendish Boyle entertained the royal visitors at a state banquet. At dawn on the following morning the Ophir steamed away for England.

The Reid Contract.—The central event of 1901 in the colony was the settlement of the relations existing between the Government and Mr. R. G. Reid in connection with the latter's railway contract and practical monopoly of island transportation interests. For several years the rail-

way interests of Newfoundland had been a difficult problem to the Government. They had spent \$13,000,000 on a transinsular line, and had found that the cost of operating the line was \$300,000 in excess of its revenue, while interest on the construction debt was also piling up. This situation the island finances could not bear, and in 1898 Sir James Winter carried through the Legislature a contract with Mr. Reid, by which the latter acquired all the railways in the colony on payment of \$1,000,000, and also took over the Government telegraph-lines. He was to have control of the St. Johns dry dock and of various other shipping or transportation concerns and 3,000,000 acres of land. The latter, however, he was to sell to settlers at 30 cents an acre. In return, he undertook to run daily trains across the island, a first-class steamer between Sydney, C. B., and Port Aux Basques, another between Newfoundland and Labrador, and 7 others in the great bays of the island. At the end of fifty years' efficient carrying out of this agreement the railway was to become his property. This contract was protested against by Mr. Chamberlain, and was bitterly opposed by a section of the Liberals under Mr. Bond. Another section under Mr. Morris took no part in the contest. The elections of 1900 resulted in Mr. Bond's return to power and a coalition with Mr. Morris. The contract came into the legislative arena again through a clause that prevented Mr. Reid from assigning his rights over the railway without the Government's consent. This Mr. Bond refused to give without a consideration, and thus the contractor found himself unable to organize the company with \$25,000,000 which he had under way and with which he hoped to develop very large interests of various kinds in the island. Meanwhile the Premier went to England in March, and, with the assumed approval of Mr. Chamberlain, who had previously supported the right of the colony to take possession of its property again after duly compensating Mr. Reid, had a bill drafted to legislate away the latter's monopoly. The terms then presented to the contractor were, that he should agree to resign his proprietary rights in the railway; that he should restore the telegraphs to the ownership of the Government; and that he should consent to various modifications of his land grants in the interest of the squatters. These he refused, and seven months were spent in negotiating. Finally an arrangement was reached, and it received the sanction of the Legislature. Under its terms the colony recovered its fee simple to the railway, the telegraphs, and the land. To resume ownership of the railway Mr. Reid was paid back the \$1,000,000 originally paid by him, together with three years' interest at 6 per cent. His operating control he was to carry on for fifty years, as before, but as a contractor and not a proprietor. For surrender of the telegraphs he received the right to string a wire of his own, for use in his business. For the surrender of the lands he was paid \$850,000, or 27½ cents an acre. The service on the railway was to be improved, all expenses for stock and equipment were to be borne by the company or Mr. Reid, and at the end of fifty years the Government was to take possession at a valuation. The right to transfer his holdings to a stock company was given. He also undertook to use the \$5,000,000 which he expected to raise upon mortgages in the development of these properties and concessions, and to deposit \$250,000 with the Government as a guarantee. He was to fence the railway tract at a cost of about \$100,000, perfect the railway line at an estimated expense of

\$250,000, build hotels, pulp-mills, and other concerns, and encourage immigration.

By this settlement the Government got back a railway that had cost \$10,000,000 and been sold for \$1,000,000; reassumed possession of lands that included 495 miles of coast-line and thousands of acres of farming, lumbering, and mining lands; and revived the credit that had been so disastrously affected by the contract of 1898. In concluding his presentation of the agreement to the Assembly, early in August, the Premier spoke very highly of Mr. Reid. The latter at once set to work to organize his company, and in October the first general meeting of shareholders in the Reid Newfoundland Company was held in London. The capital stock was announced as \$25,000,000, with all the stock taken fully paid up and a large cash credit available in the bank.

Finances.—Early in July the Hon. Edward Jackman presented his budget to the assembly. The revenue for the fiscal year ending June 30, 1900, was \$2,111,637; the expenditure was \$1,853,034; the surplus was \$258,603, to which must be added that of the preceding year, or a total of \$316,695. The probable revenue for the year ending June 30, 1901, was \$2,000,000, and the expenditure was placed at the same figure. The estimated revenue for the year ending June 30, 1902, was \$2,060,000, and the expenditure was placed at \$2,030,000. The Finance Minister was greatly pleased with the prosperous condition of affairs in the years under review. Toward the end of September the excellent credit of the Government was illustrated in the floating of a loan in London. This amount of \$2,000,000 was subscribed for three times, and was obtained on most advantageous terms. It was a 3½-per-cent. loan, for which 94 was paid, the principal repayable in fifty years.

The public debt on June 30, 1900, was \$17,376,774.

Trade and Commerce.—In 1900 the trade of the colony improved greatly and became the most prosperous in its history. The imports were \$7,497,147, an increase over the fiscal year 1899 of \$1,185,903. The exports were \$8,627,576, an increase of \$1,691,261. Of the former, \$2,224,353 came from the United Kingdom in 1900, \$3,102,604 from the British possessions, \$2,170,190 from foreign countries. Of the exports, \$1,942,093 went to the United Kingdom, \$1,802,515 went to British countries, \$4,822,968 went to foreign countries. Canada shared in the island's imports to the extent of \$2,805,490, and received of its exports \$520,137. The United States sent \$1,993,505 worth of products, and received \$1,005,525 worth. Of the exports, the chief product was that of the fisheries—\$7,015,964. The chief imports included fresh meats and poultry, \$1,366,675; molasses, \$260,489; pork, \$308,094; tea, \$147,979; leather, \$216,516; hardware, \$181,462; leatherware, \$111,443; woolens and cottons, \$653,615; ready-made clothing, \$305,296; coal, \$302,889; cordage company material, \$142,359; specie and bullion, \$261,160; mining machinery, \$81,794.

Fisheries.—The staple interest of the Newfoundland fisheries is the cod. In the fiscal year 1900 the catch was 1,300,622 quintals, valued at \$5,453,538, against a product in 1899 valued at \$4,445,031. Codfish oil was sold to the value of \$301,515, and cod-liver oil to the extent of \$8,598. The seal fisheries returned \$433,605 for seal-oil and \$162,330 for sealskins—a total of \$595,935, against \$388,599 in 1899. The lobster fisheries produced 37,523 cans, worth \$441,202, in comparison with 56,166 cans, worth \$565,362, in 1899, and 61,951 cans, valued at \$619,510, in the preceding

year. Mr. Bond, the Colonial Secretary, says that "the rigid enforcement of the regulations governing this industry, especially those against the taking of undersized fish, seems to be the only hope of saving this valuable fishery from total depletion." The herring fishery also showed a decrease from \$245,869 in 1899 to \$200,989 in 1900, due partly to the mildness of the weather and consequent difficulty of freezing the fish. The salmon catch had improved—largely owing to the fishing on the Labrador coast—from \$61,578 in 1898 to \$73,478 in the succeeding year and \$103,698 in 1900.

Education.—The expenditure upon schools in the fiscal year 1900 was \$158,151, the number of schools open was 699, and the pupils on the rolls numbered 36,591—a slight increase in each case over the preceding year. The educational system is on a basis of religious interest, each denomination receiving a Government grant in proportion to its numbers. Separate boards of education have charge of the elementary schools in the different districts, and 4 superintendents of education—Roman Catholic, Church of England, Methodist, and Presbyterian—are appointed by the Government. There is a council of higher education of 23 members, with the superintendents and head masters of colleges as members *ex officio*. In 1900 the Church of England board schools, private-aided schools, and colleges numbered 254, with 13,148 pupils and Government contributions of \$39,677; the Roman Catholic institutions numbered 228, with 12,612 pupils and Government contributions of \$49,843; the Methodist institutions numbered 212, with 10,562 pupils and Government contributions of \$35,847; the Presbyterians had simply 1 college, and the Congregationalists 4 schools. The school fees and voluntary contributions amounted only to \$31,000 all told. Of this total, the Methodists contributed more than \$14,000.

The French-Shore Question.—This problem involves the peace and prosperity of Newfoundland to some extent, the question of its union with Canada, the welfare of its fishermen, and a prominent feature in the diplomatic relations of France and England. By the treaty of Utrecht in 1713 certain fishing privileges were given to the French upon a portion of the Newfoundland coast; by the treaty of Paris in 1763 France received St. Pierre and Miquelon islands, and thereafter built up a rival fishing interest, through the bounty system, to that of England; the King's declaration in 1783 guaranteed the non-interference of British fishermen upon the French shore. Since that time continuous irritation and trouble have been caused by French aggression on this debatable land, and the very natural retaliation by British fishermen. In 1891 came the *modus vivendi* by which the Newfoundland Legislature gave the commanders of British ships practically autocratic power for the protection of French rights on the coast. This was renewed yearly, pending a settlement of the whole affair with France. In 1900 the *modus vivendi* act was renewed without protest, because of the South African War, and toward the close of the year Mr. Chamberlain asked for its renewal once more. Six years ago 1,200 Frenchmen were employed in this industry, and to-day there are only 500, while in connection with the lobster fisheries, which are also protected under the act and therefore provisionally recognized as French, the Newfoundland fishermen are forbidden to set up their lobster canneries. Yet "the right to catch lobsters and to establish canneries on the Newfoundland coasts can not be maintained under the

stipulations of the treaties of Utrecht and Versailles," which dealt only with food fish. On Jan. 11, the Paris Temps, referring to the suggestion that British Gambia, on the western coast of Africa, should be exchanged for French rights in Newfoundland, quoted the words of Lord Salisbury, two years before, declaring that those rights were "incontestable and uncontested." It then pointed out that the exchange was not desired by French-African merchants, and that the cod might again return to the inshore fisheries and restore their value. Yet it was admitted that conditions had greatly changed since the rights on Newfoundland were first given.

"Only imagine what our own sentiments would be if the fishing rights on the coast of Normandy belonged to the English and not to our fellow countrymen. Consequently, on our part, we think it is right for France not to show herself intractable if she be requested to lend herself to an arrangement to correct what the progress of time has rendered abnormal. Yet there must be no question of inverting the rôles. On our side we have no sort of need to modify the existing situation. We must, then, not be expected to be disposed to bear the cost of the modification."

When the special session of the island Legislature met in February in order to pass the *modus vivendi* act for another year, the discussion was limited. The measure then passed its various stages without opposition, though not without a wide-spread feeling that the renewal could not be continued much longer.

Reciprocity with the United States.—The old question of the Bond-Blaine treaty was reviewed this year. P. P. McGrath, editor of the St. Johns Herald, writing on Oct. 26, said: "That instrument was framed with a view to admitting the Americans to free baiting and cognate privileges in our waters, in return for free entry of our fish and crude minerals to their markets, and was based upon a clear principle and understanding of the relative merits of the two parties to it. Canada was not included, because the Americans felt that to include her was to destroy themselves." Practically, it was said, the proposed treaty—which the Dominion persuaded the Imperial Government to veto—would create a preference for American fishermen in Newfoundland or British waters over Canadian fishermen. This is better understood from the fact that the maritime province fisheries employ about 2,300 vessels and 46,000 persons, and yield \$12,000,000 worth of products, while the New England competition fisheries, which would have benefited under the proposed conditions and from whose American market the Canadian fish were excluded, employ about 1,400 vessels and 35,000 persons, with a yield valued at \$9,600,000. Mr. McGrath, however, denied that there would be any preference against Canada. "Our fish would be admitted to United States markets on better terms than Canada's, but no more stringent regulations would be enforced against Canada than now."

Statistics.—The Newfoundland savings-banks in the year ending Dec. 31, 1900, had 3,747 depositors, a total deposit of \$1,304,216, and invested funds amounting to \$1,256,070.

The letters and post cards dealt with in the fiscal year 1899-1900 numbered 1,700,000, the newspapers, etc., 2,760,000, and the parcels 20,171. The revenue of the post-office was \$57,209; the expenditure, \$238,499; the cost of the mail service beyond the colony, \$42,085.

The total mineral output—chiefly copper ore—was \$939,322, against \$603,547 in the previous year.

The lumbering industry showed a value of \$199,101, compared with \$75,853 in 1899.

NEW HAMPSHIRE. (See under UNITED STATES.)

NEW JERSEY. (See under UNITED STATES.)

NEW MEXICO. (See under UNITED STATES.)

NEW YORK. (See under UNITED STATES.)

NEW YORK CITY. Government.—The city officers during the year were: Mayor, Robert A. Van Wyck; President of the Council, Randolph Guggenheimer; Borough Presidents—Manhattan, James J. Coogan; Brooklyn, Edward M. Grout; Bronx, Louis F. Haffen; Queens, Frederick Bowley; and Richmond, George Cromwell—all of whom are Tammany Democrats except Mr. Cromwell, who is a Republican, and took office on Jan. 1, 1898, except Mr. Coogan, who took office on Jan. 5, 1899. Also there are the following county officers: County Clerk, William Sohmer; Sheriff, William F. Grell; and Register, Isaac Fromme—all of whom are Tammany Democrats and took office on Jan. 1, 1898, except the Sheriff, who took office on Jan. 1, 1900.

Taxes and Assessments.—These are in charge of a department, of which Thomas L. Feitner is president. The other members are Edward C. Sheehy, Arthur C. Salmon, Thomas J. Patterson, and Ferdinand Levy (salaries, \$7,000 each). Office, 280 Broadway. They report the total valuation of real and personal property as assessed in 1901 to be \$3,787,970,873, as against \$3,654,108,798 for 1900, an increase of \$133,862,075. They were distributed as follow: Manhattan, \$2,713,468,664, as against \$2,653,364,287 in 1900, an increase of \$60,104,377; Bronx, \$155,996,910, as against \$146,508,490 in 1900, an increase of \$9,488,420; Brooklyn, \$748,203,743, as against \$695,321,340 in 1900, an increase of \$52,882,403; Queens, \$118,006,430, as against \$109,928,553 in 1900, an increase of \$8,077,877; Richmond, \$52,295,126, as against \$48,988,128 in 1900, an increase of \$3,306,998. The following are the assessments levied on large corporations: Consolidated Gas Company, \$18,903,378; Metropolitan Street Railway Company, \$17,577,975; Third Avenue Railroad Company, \$10,525,605; Edison Illuminating Company, \$6,202,250; New York Telephone Company, \$5,084,151; Brooklyn Union Gas Company, \$5,000,000; Second Avenue Railroad Company, \$4,053,480; Brooklyn City Railroad Company, \$3,000,000; Delaware and Hudson Canal Company, \$2,711,000; New York Mutual Gaslight Company, \$1,685,000; Commercial Cable Company, \$1,000,000; Tiffany Manufacturing Company, \$990,400; Long Island Railroad Company, \$500,000; and New Amsterdam Gas Company, \$100,000.

Public Improvements.—The Board of Public Improvements consists of the president of the board, Maurice F. Holahan (salary, \$8,000), and the Commissioners of Water-Supply, of Highways, of Street Cleaning, of Public Buildings, Lighting and Supplies, and Bridges, each of whom receives a salary of \$7,500. This board was legislated out of existence with the end of the year. In 1901 it inaugurated work on the largest plan of street openings and street extensions, in the district lying northerly of West 155th Street, and bounded by the Hudson river, Spuyten Duyvil creek, and the Harlem river, ever proposed at one time during any administration. The map of the entire region will be altered. It was proposed that 62 new streets or extensions of existing streets shall be laid out. It was also proposed to provide 5 new public parks and widen 3 important streets. It was estimated that the cost of all these improvements will amount to more

than \$20,000,000. The following are some of the other proposed improvements: New avenue, from extreme northerly point of Boulevard Lafayette by viaduct across Dyckman Street, along portions of Bolton Road, east of Episcopal House of Mercy, by bridge across Harlem River Ship Canal to intersection of Kappock Street and Spuyten Duyvil Parkway. New street west of Episcopal House of Mercy, connecting with Bolton Road. New bridge across Harlem River Ship Canal, from Fort George, at Sedgwick Avenue, between Burnside Avenue and East 177th Street, with approaches to Tenth Avenue, Fort George Avenue, Harlem River Speedway, and intersection of Dyckman Street, Eleventh Avenue, and Nagle Avenue. Plaza, 150 feet radius at intersection of West 181st Street and Broadway. Plaza, 150 feet radius at intersection of Dyckman Street, Broadway, Boulevard Lafayette, and Seaman Avenue. It is also proposed to establish a new park, bounded on the east by the present line of High Bridge Park, on the north by Dyckman Street, on the west by Eleventh Avenue, and on the south by the proposed West 192d Street. A new park is proposed with a 40-foot canal running through it, extending from the Harlem River Ship Canal to King's Bridge Avenue. There is also a new park to be laid out on Jumel Terrace, and a new Fort Charles Park, and also a westerly extension of Fort Washington Park from the present shore-line to the easterly line of new avenue along bulkhead lines.

Health.—The collection of vital statistics is under the care of a board, consisting of three commissioners, one of whom must have been for five years a practising physician, the health officer of the port, and the president of the Police Board. The officials for 1901 were: Michael C. Murphy, president (salary, \$7,500), until Feb. 21, 1901, when he was succeeded by John B. Sexton (salary, \$7,500), Dr. William T. Jenkins, Dr. John B. Cosby, Health-Officer Dr. Alvah H. Doty, and President Bernard J. York of the Police Board, until Feb. 21, 1901, when he was succeeded by Police-Commissioner Michael C. Murphy. The secretary of the board is Emmons Clark, and the office is on the corner of Sixth Avenue and 55th Street. The vital statistics were as follow: The number of deaths in 1901 was 70,717, against 70,872 in 1900. There were 24,269 deaths of children under five years, 15,475 under one year, 9,951 sixty-five years and over, 17,427 deaths in institutions, and 39,118 deaths in tenements. There were 80,735 births and 33,485 marriages reported. The number of deaths from pneumonia was 9,117, against 10,482 for 1900—more than from any other disease. There were 716 suicides, against 761 for 1900, and 111 homicides, against 140 for 1900. The death-rates for the 5 boroughs are as follow: Manhattan, 20.55; Bronx, 21.60; Brooklyn, 19.25; Queens, 17.20; and Richmond, 19.42. The rate for the 5 boroughs together is 20. The statistics give the estimated population of the city for 1900 as 3,444,675, and for 1901, 3,536,517.

Police.—This department at the beginning of the year was managed by a board of 4 commissioners, appointed by the Mayor for a term of six years, who were as follow: Bernard J. York, president; John B. Sexton, Jacob Hess, and Henry E. Abell, with William S. Devery as chief of police. The inaction of this board and the persistent disregard of criticism continued until (according to Lewis F. Nixon) "under the rule of Chief Devery the condition of affairs in the Police Department became the worst in the history of the city of New York. The police officials

protected lawbreakers and gave their support to many forms of crime." Accordingly a bill was introduced into the Legislature, abolishing the bipartisan board of four police commissioners and the office of chief of police, and substituting for them a single commissioner, which was signed by the Governor on Feb. 22. The Mayor immediately appointed Michael C. Murphy to be commissioner of police, and Commissioner Murphy at once appointed Chief Devery to be first deputy police commissioner, after which, on March 4, Bernard J. York was appointed second deputy. The committee of five appointed by the Tammany Hall Executive Committee to examine into vice on the East Side continued their work until Feb. 25, when they reported to the Executive Committee and asked to be discharged. The report, which was not published, gave, according to an account by Chairman Nixon, a list of 340 gambling places that were open, and of which more than 270 had been closed and the gamblers driven from the city. It also announced that all disorderly places near public schools and churches had been closed, and measures taken to prevent their being reopened. The charge against Capt. John D. Herlihy, of the Twelfth Precinct, which grew out of a letter sent to Mayor Van Wyck by Bishop Potter, was formally presented before the Police Board, and after examination by the commissioners he was exonerated, the decision being that the charge had not been proved. A most important revelation concerning the corruptness of the Police Department was a report published in August by the Society for the Prevention of Crime, in which it was shown that the police officials protected gambling and other vices, receiving payment for such protection. It was found that methods were in existence by means of which pool-rooms and other gambling establishments could be notified of an intended raid within five minutes after a police captain had received information of a proposed descent on the place in question. These methods were tested under the direction of the counsel of the Society for the Prevention of Crime, and were found to work in every instance. This led to a complaint, lodged with the District Attorney, charging Chief Devery with neglect of duty, but up to the close of the year that office had not succeeded in bringing the matter before the courts. Similar charges were submitted by the Merchants' Association to the police commissioner, and also to the Mayor, but without results. Charges were brought against Wardman Bissert for receiving bribes from houses of prostitution, and he was convicted through the efforts of the District Attorney's office and sentenced to five years' imprisonment. Capt. Thomas J. Diamond, who was the immediate superior of Bissert, was subsequently tried for neglect of duty and convicted, in consequence of which he was, on Dec. 11, discharged from the force. Wardman Glenon, of the Tenderloin district, who was regarded as the right-hand man of Devery in collecting bribes, was tried and found guilty on Dec. 21.

Fire.—This department is managed by a single commissioner. The incumbent during the year was John J. Scannell. The chief of the department was Edward F. Croker. The headquarters are at 157 East 67th Street. For the boroughs of Brooklyn and Queens there is a deputy commissioner. During 1901 the fire-fighting force in the boroughs of Manhattan, the Bronx, Brooklyn, and Queens consisted of 2,586 officers and men, apportioned among 137 engine companies, 44 hook-and-ladder companies, 5 fire-boats, and 5 water-towers. A volunteer force, consisting of

2,000 men in the borough of Queens and about an equal number in the borough of Richmond, increased the total force to 6,000 men. During the year there were 8,427 fires. In the borough of Combustibles there was collected in all the boroughs for licenses, permits, and penalties, \$87,195 during the year. In the bureau of the fire-marshal 49 arrests in connection with suspicious fires, resulted in 3 convictions with several cases still pending. On June 28, Commissioner John J. Scannell, and William L. Mark, a manufacturer's agent, were indicted by the grand jury as a result of the ten days' investigation into the manner of purchasing supplies by the Fire Department.

Education.—The board having control of this subject consists of 20 commissioners, who are appointed by the Mayor and receive no salary. The president of the board was Miles M. O'Brien. The borough superintendent is John Jasper, and the headquarters are at the corner of Park Avenue and 59th Street. The report of the borough superintendent, made on Oct. 2, showed that the attendance of pupils on June 28 was 223,858; attendance of pupils on Sept. 27, 246,980; average attendance for three weeks ending Sept. 27, 239,226; number of classes on Sept. 27—whole day 5,473, part time 374; register of pupils at close of school on Sept. 27, 265,947; number of regular teachers, including principals, present on Sept. 27, 5,951; number of children on waiting list at close of school on Sept. 27, 3,720; number of children in part-time classes on Sept. 27, 19,309; number of vacant sittings at close of school on Sept. 27, 23,044. The increase in school attendance that usually occurs at the beginning of the autumn was in part provided for by a new school, No. 171, between Fifth and Madison Avenues, reaching from 103d to 104th Streets, and in school No. 44, on the southeast corner of Hubert and Collier Streets. Also the following new schools were to be finished by contract on the following dates: School No. 133, corner Fox and 167th Streets, Sept. 14; school No. 173, on 163d Street, between Grant and Morris Avenues, Sept. 15; school No. 61, on the corner of 169th Street and Third Avenue, Oct. 1. It was announced that an experimental school will be built on Lawrence Street, near the junction of 128th Street and Amsterdam Avenue, under the auspices of the Teachers' College, with a fund of \$100,000, presented to that institution by a resident of New York city.

Carnegie Libraries.—On March 12, Andrew Carnegie, after conference with Dr. John S. Billings, Director of the New York Public Library, arrived at the conclusion that branch libraries, to reach the masses of the people, were desirable, and in consequence determined to provide for 65 branches, the average cost to be \$80,000, which he offered to present. "If New York will furnish sites for these branches for the special benefit of the masses of the people, as it has done for the central library, and also agree in satisfactory form to provide for their maintenance as built, I should esteem it a rare privilege to be permitted to furnish the money as needed for the buildings, say \$5,200,000." This information was promptly conveyed to Mayor Van Wyck in a letter by the secretary of the Board of Trustees of the New York Public Library. An act providing for the acceptance by the city of New York of this gift from Mr. Carnegie was introduced in the State Legislature on March 25, and was subsequently passed and signed by the Governor. At a meeting of the Board of Estimate, on July 17, Mr. Carnegie's gift was formally accepted. The agreement, after showing the offer

of Mr. Carnegie to provide the funds necessary for the building and equipment of 65 branch libraries of the New York Public Library, recites that the city must provide ground on which the buildings are to be erected. The enabling act of the Legislature by which the city of New York was authorized to accept Mr. Carnegie's offer is printed in the contract in full. The agreement says that the existing free public libraries are not to be incorporated in this arrangement. The contract then says that the city shall proceed to acquire by gift, condemnation, or purchase such sites as may be necessary, not to exceed 42 in Manhattan, Bronx, and Richmond. The city is authorized, by the unanimous vote of the Board of Estimate and the Sinking-Fund Commission, to use any real estate now owned by the city and not used for other purposes for a library site under the contract. In October the secretary of the New York Public Library said that a site on East 79th Street, near Second Avenue, had been secured and approved by the Board of Estimate. Other sites were under consideration, and the services of a board of architects had been secured to supervise the designing and construction of the different branches. Subsequent to the gift by Mr. Carnegie a number of sites were offered for the library by generous-minded citizens.

Underground Rapid Transit.—Work on the subway for the new underground rapid-transit railroad, which was begun in September, 1900, progressed during the year with astonishing rapidity. The first annual report of the Rapid-Transit Commission showed that more than 200 blocks had been opened in various sections of the city, reaching from City Hall to the Bronx. They had expended then \$8,500,000, and one-fourth of the tunneling work had been done. The average monthly expenditure had been more than \$750,000, and the average number of men engaged in the work was 7,500. Twenty-five blocks were practically completed, according to the report, and 17 blocks of rock tunnel were finished, while 1,000,000 cart-loads of earth and rock had been removed and 2,000,000 days' work done. Since the annual report was issued the work has progressed with still greater rapidity. Extra steam and electric machinery necessary to supply power was secured, so that when 1902 came in the preliminary work had all been done. At that time 35 per cent. of the entire work was completed—58 per cent. of the excavation and 36 per cent. of the rock removed, at a total cost of \$12,500,000. Work was then proceeding at a cost of \$1,000,000 a month.

Deputy Chief-Engineer George S. Rice then calculated that trains would be running over the underground route by the latter part of August or the early part of September, 1903, while Contractor John B. McDonald's agreement does not call for its completion before August, 1904. By far the greatest part of the work has been done on the 5 most difficult sections—the down-town loop or terminus, in City Hall Park, the 59th Street section, three of the tunneling sections, and that at the circle at Eighth Avenue, at the west-side entrance to Central Park. At this last point the work was completed, and beyond doubt it was the most difficult of all. Here the tunnel passes under three lines of surface-car tracks, and thence northward along the new Broadway under double sets of electric-car tracks. At this point the first completed rapid-transit station, with every modern improvement, has been roofed over, ready for use. It is glazed with white, and has the appearance of a well-finished building rather than that of a railway tunnel.

The work between City Hall and Great Jones Street, now practically completed, gave much trouble to the laborers, owing to the fact that the old canal from which Canal Street got its name still rises and falls, at the depth to which they had to go, with low and high tide on the river fronts; and the shifting of the sands caused by this disturbance required extra precautions in shoring up many buildings between City Hall and Canal Street. At City Hall, the main road's terminal loop, the extensive vehicular traffic, in conjunction with the numerous surface railway-lines along Park Row, made the work particularly heavy and tedious; but these obstacles have been overcome, and the work has been roofed over.

Under the old Park Avenue tunnel, on Fourth Avenue, almost solid rock was encountered from 32d Street to the Grand Central station at 42d Street; but the excavation of the rock in Murray Hill and under the Park Avenue tunnel was accomplished, and a half mile of the tunnel was practically completed there.

Four blocks of tunnel were carved out of the foot-hills at Washington Heights, where two stations will be more than 100 feet below the surface of Eleventh Avenue. All the rock taken out here from this great depth was removed by hoisting through shafts. Near the north end of Central Park, where the road will branch off to carry East Side passengers under Central Park to the borough of the Bronx, a good deal of work was done in blasting and tunneling the rocky cliffs.

Along the east side of Union Square and northward in Fourth Avenue, all the deep rock was removed, and the work was well advanced. Considerable progress has been made on the Bronx branch, and the construction of two iron tubular tunnels under Harlem river, which will connect it with the Manhattan section, was also going on well. Running north from Melrose Avenue, in the Bronx, where the underground tracks will emerge from the tunnel and connect with the elevated road, which will continue to the northern terminus, work was fairly well advanced. There was considerable tunneling around the point where the tracks will emerge. In Lenox Avenue, between Central Park and Harlem, a great section of the tunnel was roofed and ready for the laying of the track.

A block of ground extending from 58th to 59th Street, along the North river, was acquired, to be used for the erection of the main power-house for the road. In December the Rapid-Transit Subway Construction Company purchased a plot of ground, consisting of about 150 city lots, on either side of Harlem river. This will be used for various stations on the Lenox Avenue branch of the road, leading from the main line to the borough of the Bronx, and for the erection of an additional power-house.

This year considerable changes were made in the proposed route for the road. That finally decided upon shows that, starting from the City Hall, there will be 4 tracks running north on Elm Street and Fourth Avenue to the Grand Central station on 42d Street, thence westerly to Broadway, then northerly to 104th Street; then 3 tracks continue up Broadway to 169th Street, thence up Eleventh Avenue to Fort George, where they will connect with an elevated road extending as far north as Bailey Avenue. At 104th Street and Broadway a two-track road will branch off easterly under Central Park, and at 110th Street will turn up Lenox Avenue, passing under Harlem river and running northward on the Southern Boulevard and Boston Road to Bronx Park.



EXCAVATION UNDER THE ELEVATED RAILWAY, BROADWAY AND SIXTY-FIFTH STREET.



ROCK EXCAVATION IN FOURTH AVENUE, LOOKING NORTH FROM FIFTEENTH STREET.

In September it was finally determined to build an additional underground road from the terminus of the rapid-transit road at City Hall, under Broadway to the Battery, thence under the East river to the foot of Joralemon Street, Brooklyn. It will run to the intersection of Fulton Street and Flatbush Avenue, and will connect with the Long Island Railroad. The length of this road will be 4 miles, and the cost about \$10,000,000, against the 21 miles of tunnel road in Manhattan and the Bronx, the contract price of which is \$35,000,000. As the legal proceedings necessary for the building of this road were only completed in December, 1901, the contract for its construction had not been let when this volume went to press.

In October, August Belmont, John B. McDonald, contractor, E. P. Bryan, his general manager, and Chief-Engineer William Barclay Parsons, of the Rapid-Transit Commission, visited Europe and inspected the single underground road in Paris, the two roads in Glasgow, Scotland, and the five in London, with a view to obtain the latest improvements in motive power, heating and lighting, and construction of stations. Chief-Engineer Parsons is authority for the statement that while they had secured much valuable information, they had not come to any definite determination as to these matters, as they hoped that American ingenuity could improve upon the best methods employed across the water. The roads mentioned are the only underground railroads in the world with the exception of the one in Boston and one in Budapest, the construction of which was begun last year.

Street-Railways.—At the annual meeting of the Metropolitan Railway Company, the report for the year ending Sept. 30 was submitted, which showed that the gross earnings were \$10,455,872.30, and the operating expenses were \$5,328,649.04, resulting in net earnings of \$5,127,223.26, against which are charged interest on bonds of \$1,809,680.92, and on taxes of \$873,451.23, leaving a net income of \$2,444,091.11, from which dividends of 4 per cent. on \$48,000,000 were paid, amounting to \$1,920,000, leaving a surplus for the year of \$524,091.11. The total number of passengers carried were 194,152,316, as against 183,788,851 for the previous year. The operating percentage was 50.97 per cent., as against 52.21 per cent. for the previous year, taxes excluded. With the taxes this percentage is increased to 59.32 for last year and 60.98 for the previous year, and 65.60 for 1899. The line from Tremont to Fordham was completed and put in operation on July 1; also during the year the change to electrical equipment has been in active progress. Buildings for a central power station at East 74th Street, and substations at Allen Street, 34th Street, and 99th Street were completed, in which the machinery was installed. Motor equipments were procured, and 300 new cars were received during the year.

Bridges.—Early in the year announcement was made that the first strand of wire to be strung across East river on the new bridge from anchorage to anchorage was ready, and at the close of the year announcement was made that the first of the 37 strands for the first of the big cables was completed on Dec. 14, and work on the second strand and on the first strand of the second cable was to begin on Dec. 16. There will be 4 cables in all, each strand contains 208 wires, and the strands are built up in place on the bridge.

The plan for the construction of the Blackwells Island bridge from 60th Street, Manhattan, to Ravenswood, was approved by Secretary Root

on Feb. 23. This bridge will be 170 feet wide, and will be constructed on the same principle. From the East river shore a trestle will be constructed to the opposite shore of Long Island City, which will be 2,710 feet, and its middle pier will be on Blackwells Island. It will accommodate 4 elevated railroads, 2 double roads for trolley cars, paths for bicycle riders, footpaths, 2 roadways for heavy teams, and also roadways for lighter vehicles. The estimated cost of the structure is \$5,740,000.

On July 24 it was discovered that 7 of the suspension rods and 2 of the cable bands on the bridge between Brooklyn and New York were broken, in consequence of which traffic on the roadways was suspended for several days. The bridge was promptly examined by experts, and while the belief was expressed that subsequent to the repair of the bridge it was stronger than ever, still a limit had been reached for possible traffic. The fractures were found to be due to dead weight and vibration instead of heat, as originally supposed, and it was found during repairs that a sag or drop of some six inches had occurred on the north roadway in consequence of the accident. While it was not originally intended for street-cars, they had been permitted to cross the structure under regulations to keep 102 feet apart, but at rush times the cars were frequently within 50 feet of each other. Regulations were introduced compelling them to remain 200 feet apart between the New York and Brooklyn towers, and 102 feet apart on the spans extending from the approaches to the towers.

The American Scenic and Historic Preservation Society arranged for a competition for the naming of the four East river bridges that are now built or in process of construction, and a prize, consisting of a silver copy of the medal commemorating the consolidation of Greater New York, was awarded for the following names: Brooklyn, for the existing bridge, variously known as the Brooklyn Bridge, New York and Brooklyn Bridge, Suspension Bridge, etc.; Manhattan for the Delancey Street bridge, which is now almost completed; York for the bridge at the foot of Pike Street; and Queens for the bridge across Blackwells Island.

A bill permitting the erection of a bridge over the Hudson river by the New York and New Jersey Bridge Company, the franchise for an elevated passenger and freight belt line over the dock property, was passed by the Legislature, but, largely owing to the severity of the criticism that it met with on the giving away of valuable franchises, the bill was vetoed by the Governor on May 11.

Tunnels.—In connection with the development of the rapid transit, the building of tunnels under the rivers bounding New York was discussed during the year. A proposition to construct a tunnel to South Brooklyn and under the Narrows and Staten Island to the New Jersey shore, was presented by Albert L. Johnson before the Rapid Transit Commissioners, and was rejected by them on March 29.

The plans of the Long Island extension railroad for the tunnel that it proposes to build from Long Island City to Manhattan island were filed in the offices of the county clerks for New York and Queens Counties on June 21. The tunnel will begin in Long Island City at the right of way of the Long Island Railroad at Thompson Avenue, and will descend on a grade of 1.25 per cent. to a point just beyond Vernon Avenue. Between Van Alst Street and Vernon Avenue it will make a curve to the southwest, and thence will con-

time on a level grade as far as Front Street. When it reaches Vernon Avenue the tunnel will be about 40 feet below the surface of the ground. Running between Borden and Flushing Avenues, the tunnel will still farther descend on a grade of 1.5 per cent. to the pier-head line. From here the grade will be 0.47 per cent., and the line of the tunnel will go as straight as an arrow to the ferry-house at 34th Street, under which the tunnel will make a curve westward. From here on the tunnel will rise gradually, the grade to Lexington Avenue being 2.5 per cent., the steepest of the entire line. Crossing underneath the rapid-transit tunnel, the rise will continue on a grade of 1.5 per cent. to Sixth Avenue, and from there on it will continue almost on a level to the terminal at 45th Street and Broadway, which is reached through Seventh Avenue. The curve at Seventh Avenue and 33d Street will be the sharpest of the whole line. The greatest depth to which the tunnel will descend will be underneath the East river, where the roof will be about 80 feet beneath high-water mark. The water at this point ranges in depth from 57 feet near the center to a few feet near the shore-line, so that the roof of the tunnel will be 20 to 75 feet beneath the bottom of the river.

The announcement was made on June 3 that the engineers of the Rapid Transit Commission would begin at once a series of borings in the bed of East river, to inaugurate the beginning of work on the tunnel to Brooklyn. It was said that several months would be spent in surveys and the preparation of working plans before the contracts could be let.

The old North river tunnel, on which work was begun many years ago, has been announced for completion within a year, and negotiations are said to have been arranged with street-railway companies by means of which trolley-cars will be run through the tunnel to New York.

New Armories.—On Sept. 21 the corner-stone of a new armory for the First Battery of the National Guard was laid in 66th Street, near Columbus Avenue. The plans of the new building called for a three-story building, of pressed brick above granite, at a cost of \$157,000. A riding-ring and stabling for 76 horses will be features of the building. It is to be completed by June of 1902. On Oct. 2, plans were filed for a new armory for the Sixty-ninth Regiment, to occupy the entire block front on the west side of Lexington Avenue, between 25th and 26th Streets. The drill hall will be 262 feet long by 189 feet wide. On the first floor there will be a library and meeting room, as well as accommodations for the quartermaster, commissary, and armorer. The second floor will be devoted to company rooms and staff-officers' rooms. Besides a gymnasium, 35 by 70 feet in size, the third floor will have a kitchen, storerooms, and quartermaster's issuing room. On the 25th Street corner a tower will rise to the height of 7 stories. The basement will contain the rifle-range, 228 feet long, with 12 targets, and a plunge-bath, 25 feet wide and 70 feet long. The estimated cost is \$450,000.

Monuments.—The two bronze figures representing Painting and Sculpture and Architecture, each 6 feet 3 inches in height, were placed at each end of the white marble monument of Richard M. Hunt, against the pilasters. The figure Painting and Sculpture holds in her hand the Theseus from the pediment of the Parthenon, and Architecture holds a model of the Administration Building of the World's Columbian Exposition, one of Mr. Hunt's masterpieces.

On April 15, a bronze bust of Charles Broad-

way Rouss, by Pompeo Coppini, was presented to the city by women of the South. As the Park Department can not receive the statue of a living person, the exercises were held in the Arsenal in Central Park.

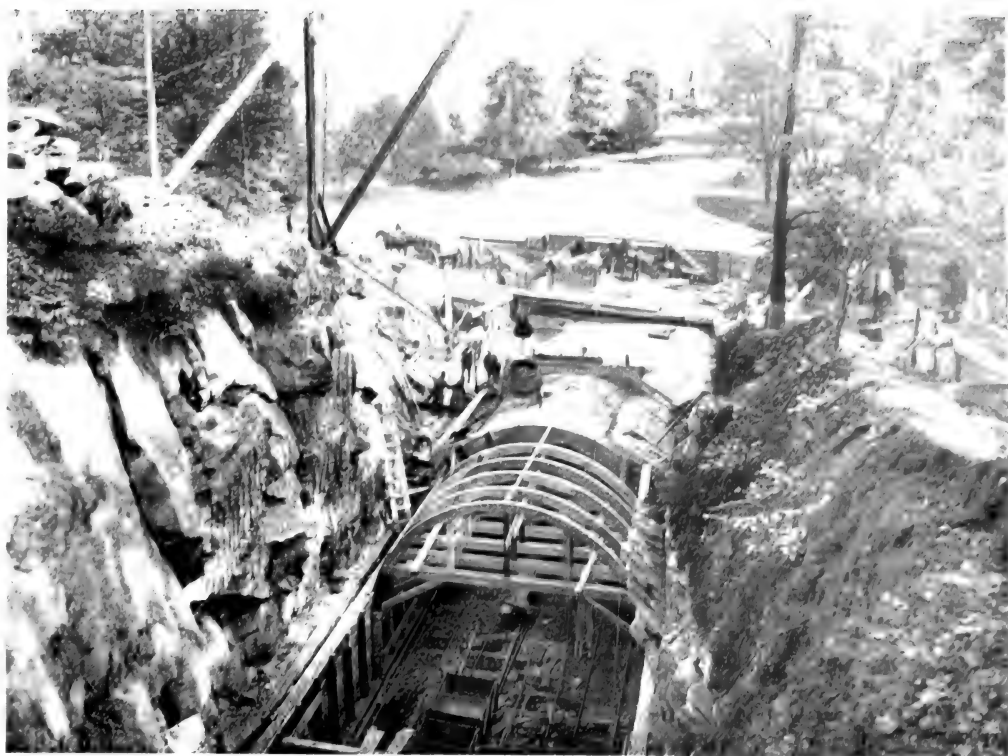
On April 15, the Mary Washington Colonial Chapter of the Daughters of the American Revolution unveiled a bronze memorial tablet on the old prison, now the Register's office, in City Hall Park. The inscription reads: "This tablet marks the site of the Provost Prison, where patriots died for the cause of freedom about A. D. 1776. Erected by the Mary Washington Colonial Chapter, Daughters of the American Revolution, April 15, A. D. 1901."

A bronze statue of Henry B. Hyde, founder of the Equitable Life Insurance Company, by J. Q. A. Ward, was unveiled in the arcade of the Equitable Building on May 2. The exercises were informal, but addresses by James W. Alexander and Chauncey M. Depew were made at a luncheon that preceded the uncovering of the statue.

A tablet commemorative of the hundredth anniversary of the birth of Peter Cooper was unveiled in the southern end of the main entrance of Cooper Union on May 11. The tablet represents the combined work of the sculptor Augustus St. Gaudens and the architect William C. Haskell. It is of Siena marble, the entablature being supported on carved consoles. The panel, measuring 2½ by 4 feet, is of green serpentine marble, and in this is embedded a tablet 22 inches in diameter, a plaque intaglio of Peter Cooper done in bronze and surrounded by a laurel wreath. Bernard M. Wagner, President of the Alumni Association, presented the tablet to the trustees, and John E. Parsons accepted it on behalf of that body.

On Nov. 16, the one hundred and twenty-fifth anniversary of the battle of Fort Washington, the Empire State Society of the Sons of the American Revolution, with the cooperation of the American Scenic and Historic Preservation Society, dedicated a memorial marking the site of the Revolutionary fort. It is on the northeast bastion of the fort, on Fort Washington Avenue, in the line of 183d Street protracted. At that point the western sidewalk of the avenue cuts through the native rock, leaving a vertical face about 10 feet high. Against this is the memorial, consisting of a wayside seat and step, about 8 feet wide, flanked by two pilasters rising to the top of the rock, supporting an entablature and embracing a tablet inscribed as follows: "This memorial marks the site of Fort Washington, constructed by the Continental troops in the summer of 1776. Taken by the British after a heroic defense, Nov. 16, 1776. Repossessed by the Americans upon their triumphal entry into the city of New York, Nov. 25, 1783. Erected, through the generosity of James Gordon Bennett, by the Empire State Society of the Sons of the American Revolution, Nov. 16, 1901. Site registered by the American Scenic and Historic Preservation Society." Extending back on the ground level with the top of the structure is a concrete platform for a cannon and pile of cannon-balls. The design is by Charles R. Lamb. The tablet was unveiled simultaneously with the hoisting of the United States flag in the fort by Christopher R. Forbes, whose ancestor, John Van Arsdale, raised the flag on Evacuation Day, 1783, at the Battery.

A monument to Robert Fulton, inventor of the steamboat, was unveiled on Dec. 5, in Trinity Churchyard. The exercises, which were under the auspices of the American Society of Mechanical Engineers, began with orations by Rear-Admiral George W. Melville, U. S. N., and Dr. Robert H.

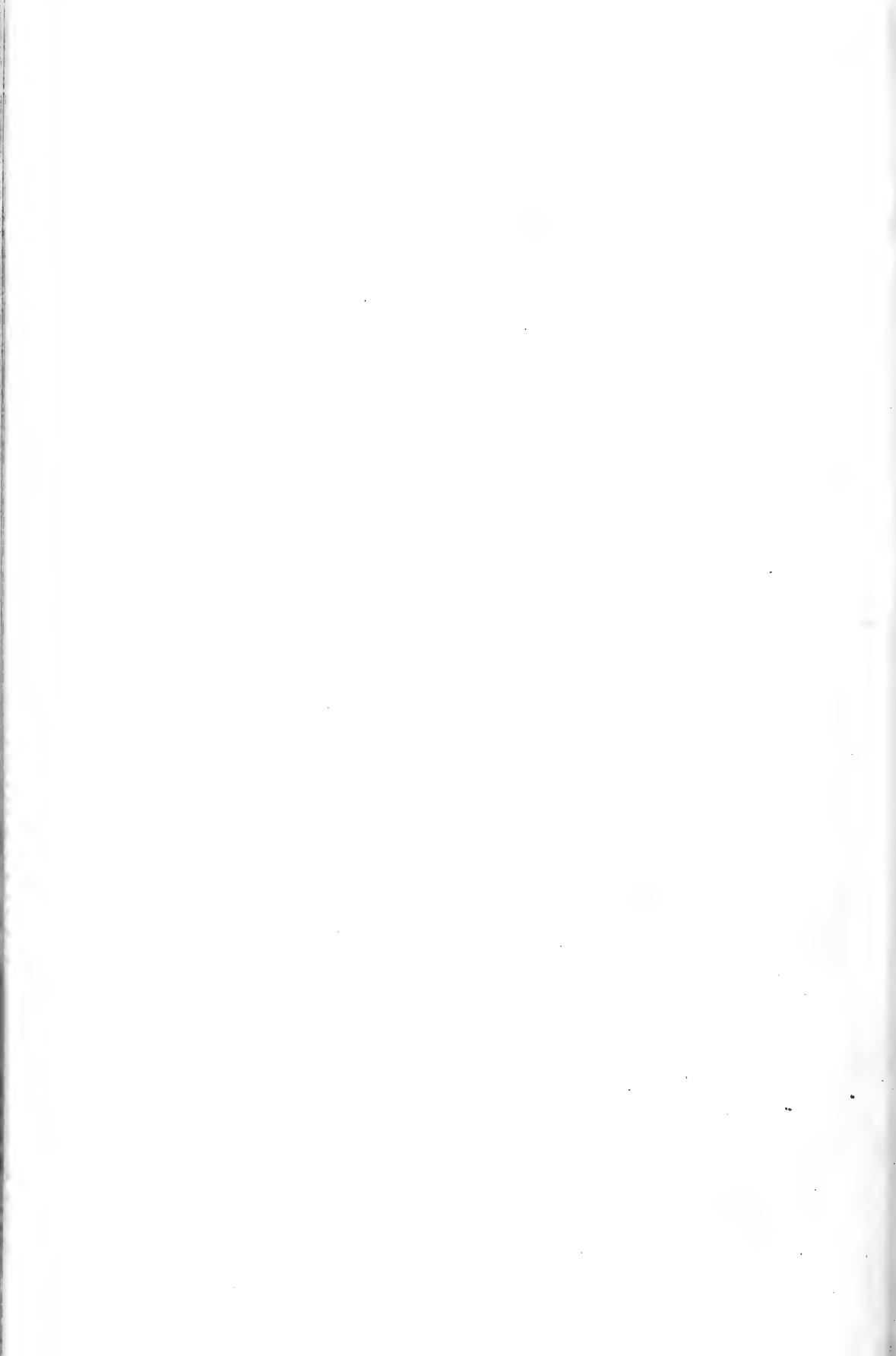


WORK ON THE SUBWAY AT NORTHWESTERN CORNER OF CENTRAL PARK.



A FINISHED PORTION OF THE SUBWAY, AT BLEECKER AND ELM STREETS.

From photographs by Pierre P. Pullis.



Thurston, of Cornell University. The site is next to that of Alexander Hamilton's memorial, on the Rector Street side of the yard. The monument stands 12 feet high and is of plain granite, bearing a bronze relief of the features and bust of Fulton. On the foot of the granite block is the inscription: "To the memory of Robert Fulton. Born, 1765. Died, 1815. Erected by the American Society of Mechanical Engineers, 1901."

Excise.—The operation of the State liquor-tax law in New York city during the excise year ending April 30, 1901, was as follows: Net amounts received from the issue of certificates, transfers, and fines, \$7,962,555.25; State's one-third share, \$2,654,185.09; New York city's two-thirds' share, \$5,308,370.16; total, \$7,962,555.25. On the basis of the equalization table of 1900, prepared by the State Board of Assessors, the city has benefited by reduction in State taxes due to the State excise revenue of \$2,594,788.10, making a total benefit to New York city's revenue of \$7,903,158.26. The total number of certificates in force in New York city April 30, 1901, was 12,571. New York paid for excise taxes for the year expiring April 30, 1901, \$7,962,555.25, and there is paid back to it or credited to its account by the special deputy commissioners for the various boroughs and by the State of New York the sum of \$7,903,158.26. The boroughs of Manhattan and the Bronx paid for excise taxes for the year expiring April 30, 1901, \$5,293,750.97, and there is paid back to them and credited to their account by the special deputy commissioner for the boroughs of Manhattan and the Bronx and by the State of New York the sum of \$5,521,192.26.

Fortifications.—In the annual report of the chief of engineers concerning the defenses of New York, the following statements appear: Eastern entrance—electric-lighting plants have been built for all the batteries, range-finder stations have been built, and an electric tide indicator has been installed. Under recent allotment work has been started upon two emplacements for 6-inch rapid-fire guns. Thirteen hundred and forty-three linear feet of sea-wall have been built, and further construction is in progress. All materials needed for the torpedo defense of the eastern entrance are on hand and in good condition. Southern entrance—2 12-inch gun emplacements begun and about half completed; 2 6-inch emplacements nearly completed; 6 emplacements for 6-inch rapid-fire guns on pedestal mounts just begun. One range-finder tower has been built and a second nearly completed. Permanent magazines and parapet have been built for the pneumatic dynamite-gun battery. Two central electric-power stations have been begun. Under recent allotments extensions of 2 sea-walls have been begun. A project for enlargement of Governors Island, New York, has been adopted and work is about to begin. The report further shows that the expenditure during the fiscal year was for removal of rocks and boulders from the channel between Blackwells Island and the Battery. At Man-o'-War Rock 8,481 cubic yards of rock were removed, or about three-sevenths of the amount required to afford a depth of 26 feet. Little progress was made on the reef off 26th Street, less than one-tenth of the proposed rock having been taken out to give a depth of 26 feet. From Battery and Shell reefs 19,743 tons of material were removed, thereby widening the channel off the Battery and South Ferry slip. The water front between East 7th and East 18th Streets was deepened several feet in order to facilitate the dockage of vessels. Shoals on either side of the main ship channel have been removed, widening the channel

out to nearly its full width of 1,000 feet, and a large shoal on the north side of Battery Point, just beyond the Swash channel. The result has been to restore the passage of ships at these points, which is necessary for them to meet and pass. Dredging was also done in the Island channel, and to deepen the approach to the Government piers at Fort Hamilton and Fort Hancock, New York harbor. Up to the close of the fiscal year 423,209 cubic yards of sand had been removed from the outer side of the bar at the entrance to Ambrose channel.

Historical.—The plan to purchase the property known as the Jumel Mansion and grounds was favorably considered by the Board of Public Improvements on March 6. The grounds occupy a space of 67,391 square feet, bounded by 160th and 162d Streets, Edgewcombe Road, and Jumel Terrace, the property being on a bluff 100 feet above the Harlem river. The mansion, which is in the colonial style of architecture, was built in the year 1750 by Roger Morris, a colonel in the British army, who married Mary Phillipse, whom Washington wooed and lost. Gen. Washington used the mansion as a headquarters from June to the middle of October, 1776. Stephen Jumel bought the property in 1800, and his widow, Mme. Jumel, occupied the property at the time of her death, in 1865, and it was here that she married Aaron Burr. The house is in a fair state of preservation, and the grounds include about 27 city lots. The cost of the property to the city will be about \$200,000. The Society for the Preservation of Scenic and Historic Places of Interest also presented a petition before the Board of Public Improvements, asking that the city acquire half the block bounded by Coenties Slip, Broad, Water, and Pearl Streets, this plot to be used as a public park. The first two stories of the old building long known as Fraunce's Tavern still remain, and the society proposes to tear down the two stories built on top of these and to restore the ancient Dutch roof, the lattices over the windows, and other features of the historic place as it was a hundred years ago. The society also proposes to take charge of and maintain the park and tavern, as has been done in the case of Stony Point. In what is known as the "Long Room" of this old tavern George Washington delivered his farewell address to his generals.

Immigration.—The reception of immigrants in New York is under national supervision. The commissioner, who is appointed by the President, is Thomas Fitchie. Ellis Island, in New York Bay, is the landing-place for the immigrant. According to the report for the year ending June 30, 1901, the number of cabin and steerage passengers who arrived in the years 1899-1900 and 1900-1901 was 586,552, of whom 453,496 came in the steerage. The number of immigrants from almost every foreign country showed increases in 1900-1901. The total increase was 47,219. Irish and Bohemians have brought over the greatest number of women, with the Hebrews, Germans, and Scandinavians next. There has been an increase in the immigration from southern Italy, and a still greater increase in the number of Ruthenians, Armenians, Syrians, Greeks, Croats, and Dalmatians. During 1899-1900 the number of male immigrants was 228,414, and females 113,298, while last year the respective figures were 265,818 and 123,113. In 1900-1901 the total amount of money brought over by immigrants was \$5,490,080, or \$14.12 a head, as against \$4,610,649 in the preceding year, or \$13.49 a head. Last year those classed as illiterate of fourteen

years of age and over numbered 107,323, or 27.60 per cent. In 1899-1900 the proportion was 23.41 per cent. and the number 79,988. Out of the total immigration the percentage of deportations was 1.04 in 1899-1900 and 0.80 in last year.

Real Estate.—The year 1901 was the most remarkable year that New York city has ever had in the volume of business transacted in the real-estate market and in the building industry. It was marked by the incorporation, followed almost immediately by active operations, of syndicates with enormous capital for dealing in real estate, and likewise by the incorporation of building, loan, and trust companies for the erection of gigantic structures such as had never before been contemplated.

The recorded transactions at the Register's office numbered 15,919 transfers of realty, against 14,587 in 1900, and the consideration involved in these transfers was increased from \$114,243,112 in 1900 to \$156,413,052. There was a marked advance in the price of real estate, as the average price per parcel in 1900 was only \$17,800, and in the last year it was \$21,900. The expressed consideration has heretofore, in one or two years, exceeded the figures of last year, but owing to the fact of the formation of the syndicates—many of which were for speculative purposes—the deeds to the largest transactions were recorded at what, on the real-estate market, is known as a nominal consideration, consequently no figures could be obtained. The transactions of this character in 1900 were only 25 per cent. of the total, while last year they were 60 per cent.

South of City Hall, the sale of old buildings, which were torn down and upon which the latest improved office buildings were or are being built, was most remarkable. This was due to the demands of extensive business corporations from all parts of the country, which were establishing headquarters in New York. Perhaps the most remarkable movement, however, has been that on Fifth Avenue. In 1900 but 81 conveyances were recorded south of the northerly limit of Central Park, while in 1901 164 parcels of realty were transferred in that district. Between 23d and 50th Streets the avenue became more and more valuable as a site for fashionable shops. Property here that could have been bought a few years ago for \$20 a square foot, sold last year as high as \$72 a square foot.

Farther up the avenue, opposite Central Park, the character of this thoroughfare was determined definitely by the erection of the fine mansion of Andrew Carnegie and the purchase of mansions or ground for the erection of palatial residences by the magnates of the Steel Trust and other millionaires.

Another center of great activity was around Greeley Square, at the junction of Broadway, Sixth Avenue, and 34th Street, where two of the largest retail dry-goods companies began operations for the erection of mammoth establishments. They paid the highest price ever known in this locality for the large properties they purchased. Then, too, the Pennsylvania Railroad Company purchased the two blocks of ground between 32d and 33d Streets, between Seventh and Ninth Avenues, at various prices. One house in 32d Street, between Seventh and Eighth Avenues, they acquired for \$16,500, while for a precisely similar house adjoining they paid \$26,000. On these two blocks, the company announced in December that they proposed to erect a great central station, to be connected with their main line by a tunnel under the North river and by another tunnel to

the East Side and under the East river to connect with the Long Island Railroad.

Immediately after the advent of 1900 real-estate speculators appreciated the fact that the new rapid-transit railroad—which will run through 42d Street and thence up Broadway—would, upon its completion, very greatly enhance the value of property around Longacre Square, as one of its most important stations in the center of the city will be there, and their purchases caused an advance of 30 to 35 per cent. in realty around it. Plans were filed for three hotels and a theater and 14 apartment-houses thereabouts. One of the hotels is to be erected on the southeast corner of 42d Street and Broadway—the site of the old St. Cloud Hotel—by William Waldorf Astor, and the preparatory work was begun. This hotel is to rival all others in New York.

There were extensive purchases of land in large parcels, many of them belonging to old estates, on Washington Heights and in the borough of the Bronx, at constantly advancing prices, by speculative syndicates and extensive operators, who in many cases resold to builders, loaning them money for the erection of buildings.

In the building trade, many new and interesting features were developed. The plans filed in the Department of Buildings in Manhattan and the Bronx called for the erection of 2,512 buildings, at a cost of \$118,897,820. The figures show a large increase over those of the years previous, in which the number of buildings planned was 1,969, and their estimated cost \$57,233,355. Five years ago the average cost of new buildings constructed on the island of Manhattan was but little over \$20,000. In 1899 it had increased to a little more than \$25,000, while last year it rose to \$48,000. The distinctive feature has been the erection of apartment hotels, and these have sprung up like mushrooms in the residential quarter of the city. The largest of these was erected on the southeast corner of 63d Street and Madison Avenue, and is 100 feet square and 13 stories high.

Every person who has visited New York will remember the triangle known as "the Flat-iron," bounded by Fifth Avenue and Broadway and 22d and 23d Streets, which comes to a point in front of the Fifth Avenue Hotel and Madison Square. This was sold to a syndicate, the old buildings occupying the site were torn down, and work was begun on a 20-story office-building.

In the borough of Brooklyn, the total number of conveyances of realty in 1901 was 16,231, against 15,814 in 1900, while the monetary consideration in the latter year was \$25,101,230 and in 1901 it was \$24,127,386, showing a decrease on an increased number of transactions. The total number of mortgages recorded was 12,343, against 12,534 in 1900. The total amount last year was \$67,889,940, against \$53,050,825. Plans were filed for 3,272 new buildings, at an estimated cost of \$17,992,075, against 2,982, at a cost of \$16,274,189 in 1900.

Political.—The regular election was held on Nov. 5, and unusual interest was manifested, owing to the fact that a determined effort was made to defeat the Democratic ticket, which bore the names of the Tammany candidates. There were 7 tickets in the field, as follow: Republican, Democratic, Prohibition, Socialist-Labor, Social-Democrat, Citizens' Union, and Greater New York Democracy, the last two of which nominated the same candidates as were on the Republican ticket, which in consequence became known as the Fusion ticket. The candidates were as follow: Republican—Mayor, Seth Low; Comptroller, Edward M. Grout; President of the Board of Alder-

men, Charles V. Fornes; Justices of the Supreme Court for the First Judicial District, Morgan J. O'Brien, James A. Blanchard, John Proctor Clarke, and Samuel Greenbaum; Judge of the City Court, Samuel Seabury; Sheriff, William J. O'Brien; County Clerk, Thomas L. Hamilton; District-Attorney, William Travers Jerome; Register, John H. J. Ronner; President of the Borough of Manhattan, Jacob A. Cantor; Coroners of the Borough of Manhattan, Gustav Scholer, Solomon Goldenkranz, Moses J. Jackson, and Nicholas T. Brown; also 73 aldermen and 60 members of the Assembly. Democratic—Mayor, Edward M. Shepard; Comptroller, William W. Ladd, Jr.; President of the Board of Aldermen, George M. Van Hoesen; Justices of the Supreme Court for the First Judicial District, Robert A. Van Wyck, Morgan J. O'Brien, Charles H. Knox, and Charles W. Dayton; Judge of the City Court, John P. Schuchman; Sheriff, John T. Oakley; County Clerk, George H. Fahrbach; District Attorney, Henry W. Unger; Register, Frank J. Goodwin; President of the Borough of Manhattan, Isaac Fromme; Coroners of the Borough of Manhattan, Edward T. Fitzpatrick, Edward W. Hart, Jacob E. Bausch, and Antonio Zucca; also 73 aldermen and 60 members of the Assembly. A canvass of remarkable interest followed, in which the dishonest rule of Tammany, as shown in the corrupt practises of the Police Department and the apathy in the office of the District Attorney, was thoroughly exposed, and the high standing of the fusion candidates established. A particularly interesting feature of the canvass was the candidacy of William T. Jerome, whose efforts as judge of a criminal court to secure the conviction of political criminals had been so persistently opposed by the higher Tammany officials. The entire fusion ticket was elected in the boroughs of Manhattan, Brooklyn, and Richmond, while in Queens and the Bronx the Democratic candidates for borough presidents were successful, and for the Board of Aldermen there were elected 26 Democrats from the boroughs of Manhattan and the Bronx, 5 from Brooklyn, 2 from Queens, and 1 from Richmond, and 18 fusionists from the boroughs of Manhattan and the Bronx, 17 from Brooklyn, 2 from Queens, and 2 from Richmond. Also the following Assemblymen: Democrats—from Manhattan and the Bronx, 24; from Brooklyn, 7; and from Queens, 2. Fusionists—from Manhattan and the Bronx, 11; from Brooklyn, 14; from Queens, 1; and from Richmond, 1. The total vote cast for Mayor was 560,120, out of which Mr. Low received 294,992, or a plurality of 29,864 over his nearest opponent. Subsequent to the election Nicholas Muller, Representative from the Seventh Congressional District, tendered his resignation, and Montague Lessler (Republican) and Perry Belmont (Democrat) were nominated to fill the vacancy.

Events.—On April 14, the corner-stone of a new Hall of Records was laid at the corner of Center and Chambers Streets. On May 30, the Hall of Fame of the New York University was inaugurated. On June 5, representatives of the New York Chamber of Commerce were entertained in London. On Sept. 18, the fiftieth anniversary of the initial publication of the New York Times was celebrated by the issuing of a historical and commemorative number. On Nov. 10, the corner-stone of the new building for the Chamber of Commerce was laid on Liberty Street, between Nassau Street and Broadway.

NICARAGUA, a republic of Central America. The Congress by the provisions of the Constitution of Dec. 10, 1896, consists of a single chamber

of 40 members elected by universal adult male suffrage for two years. The President is elected by the direct popular vote for a term of four years. Gen. José Santos Zelaya was chosen President of the republic for the term ending Jan. 1, 1902. The Cabinet consisted at the beginning of 1901 of the following members: Minister of the Interior, Justice, Police, and Ecclesiastical Affairs, Gen. Fernando Abaunza; Minister of Foreign Affairs and Public Instruction, Dr. Fernando Sanchez; Minister of Finance and Public Credit, Col. Felix Pedro Zelaya; Minister of Public Works, Dr. Leopoldo Ramirez Mairena.

Area and Population.—The republic has an area of 49,200 square miles, with about 450,000 inhabitants, mostly Indians, with an admixture of negro blood. There were 2 universities and 10 colleges with 308 instructors, and 323 primary schools with 323 teachers and 17,803 pupils in 1900.

Finances.—The revenue for the calendar year 1898 was \$4,009,603 in silver, and the expenditure \$4,824,138. Of the revenue \$1,604,425 were derived from customs, \$1,059,946 from duties on liquor and tobacco, \$192,395 from a tax on cattle slaughtered, \$590,475 from railroads, posts, and telegraphs, and \$562,462 from stamps, the gunpowder and other monopolies, and an export duty on cattle. Of the expenditure \$1,809,131 were assigned to the Ministry of War, \$852,430 to the Ministry of Public Works, \$781,204 to the Ministry of Finance, \$325,070 to the Ministry of Public Instruction, \$477,462 to police, \$391,308 to the interior, and \$153,880 to justice. The budget estimate of revenue for 1900 is \$6,408,000, of which customs produce \$3,375,000, the liquor and tobacco duties \$1,360,000, the slaughter tax \$200,000, the export duty on coffee \$200,000, the export duty on cattle \$60,000, and railroads, posts, and telegraphs, and other services \$903,000. The expenditure for 1900 was estimated in the budget at \$6,414,951, of which \$1,066,070 were for the Ministry of War and Marine, \$2,454,912 for the Ministry of Finance, \$1,153,378 for the Ministry of Public Works, and \$471,792 for the Ministry of Public Instruction. About 2,000 men are maintained as the regular army, with 10,000 in the reserve and a National Guard of 5,000.

The external debt was raised in London in 1886 to build railroads. The Government defaulted in the payment of interest in 1894, and in 1895 made an arrangement with the creditors to reduce the future interest from 6 to 4 per cent. and that in arrears to 3 per cent. The original loan was £285,000 sterling. On July 1, 1900, the amount outstanding was £272,100, besides £6,505 of coupons unpaid. The internal debt was \$7,782,810 in 1898.

Commerce and Production.—Cattle-raising was the chief occupation of the people until settlers from Germany and the United States introduced the planting of coffee and bananas. Cacao is grown for local consumption. There are about 400,000 cattle, and the export of hides is still considerable. Rubber was one of the main articles of export, but from Jan. 1, 1898, its exportation has been prohibited, excepting from the department of Zelaya, formerly the Mosquito Territory. The rubber-tree has recently been planted extensively. The sugar production in 1899 was 65,000 hundred-weight; the production of spirits, 838,373 liters. There are 109 mines worked by American, a few by British companies. Most of the ores contain both gold and silver, some of them silver with copper. The export of gold bars and dust increased from 8,000 ounces in 1895 to 16,242 ounces in 1898.

The total value of imports by sea in 1899 was \$5,236,165, of which \$2,995,741 came through Pacific and \$2,995,741 through Atlantic ports. The exports were \$6,981,472 in value, \$3,686,156 by way of Pacific and \$3,295,316 by way of Atlantic ports. Cotton goods were imported from the United States and Great Britain, woollens from Great Britain, knit goods from Germany and France, machinery, tools, and hardware from the United States, earthenware from Germany and France, and preserved meats from France and Italy. The exports of coffee were 45,000 hundredweight to Germany, 15,000 hundredweight to England, 15,000 hundredweight to France, 6,000 hundredweight to the United States, and 4,000 hundredweight to Italy. Rubber was shipped to the United States, gold to the United States and Great Britain, hides to the United States, dyewoods and cabinet woods to Great Britain, Germany, and the United States. The export of spirits to Spanish-American countries was 18,737 liters, and 26,000 hundredweight of sugar was shipped to California.

Navigation.—There were entered in 1898 at Corinto, the port through which two-thirds of the foreign trade passes, 78 vessels, of 114,161 tons, of which 35, of 57,050 tons, were American and 27, of 46,454 tons, German. This does not include coasters, of which 104, of 62,886 tons, were entered.

Railroads, Posts, and Telegraphs.—The railroads, all belonging to the Government except one short line, connect with steamers on Lake Nicaragua and Lake Managua. They have a total length of 140 miles. A new line connecting with the railroad to Corinto at Masaya has been carried into the coffee-growing district to Jinotepe, and is being extended to Diriamba.

The post-office in 1896 received 1,376,366 pieces of mail-matter. There are 1,245 miles of telegraphs.

The Projected Nicaragua Canal.—A modification of the Clayton-Bulwer treaty of 1850, providing for the joint Anglo-American protection of any canal across the American isthmus, was negotiated and signed on Feb. 5, 1900; but, failing to obtain the ratification of the United States Senate, it lapsed on March 4, 1901. Negotiations were afterward resumed. Great Britain wanted to stipulate that the United States should build no fortifications on the canal or its approaches, and should covenant to keep it open on equal terms to the ships of all nations in peace or war.

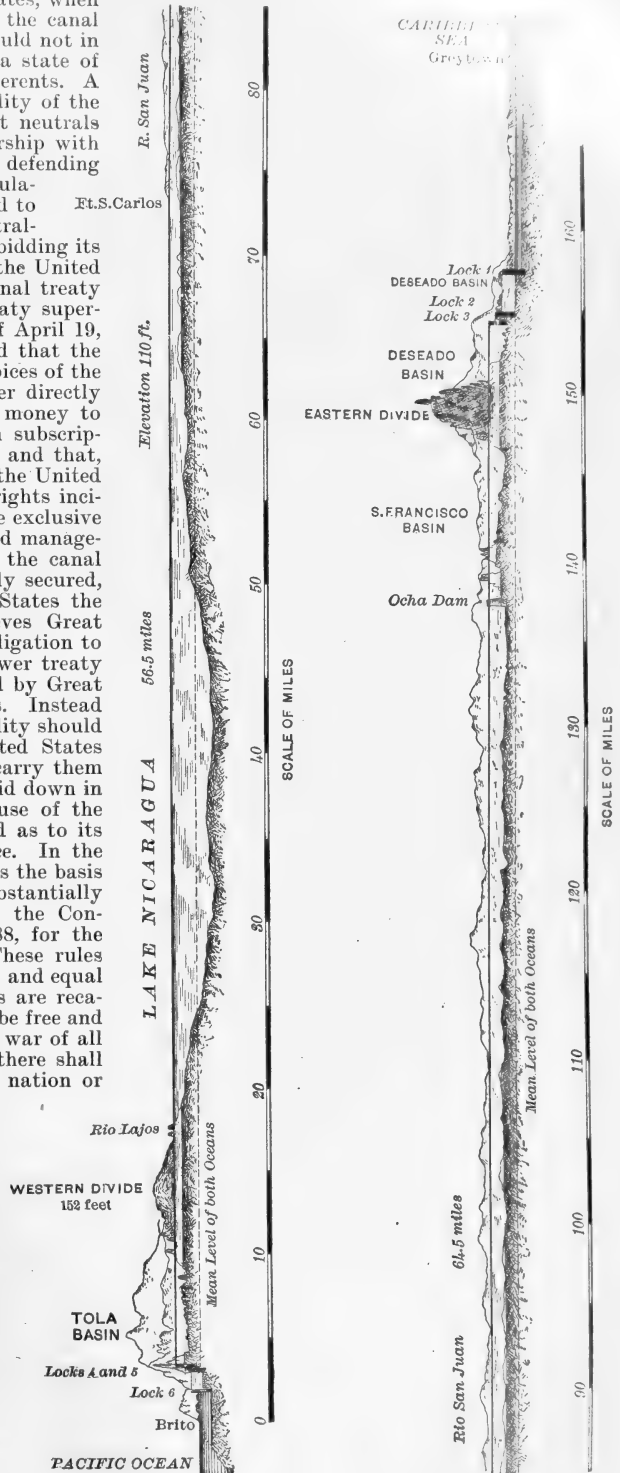
The commission appointed to make a detailed study of the routes for an interoceanic canal found the Panama and Nicaragua routes both practicable. Nicaragua had the advantage of proximity to the Atlantic and Pacific seaboards of the United States, Panama that of shorter canal transit and less liability of the waterway being accidentally blocked, and also of having part of the work already done, though this was offset by the excavated earth having to be moved again for a canal of wider dimensions than the original plans called for. A settlement with the original Panama stockholders and the new company representing their interests and with the French and the Colombian governments was, moreover, difficult and complicated, and after long negotiations several times interrupted no satisfactory offer was yet received from the directors of the existing French Panama Company. Before the Nicaragua Canal could be constructed under the auspices of the United States Government, not only had the old agreement for its joint protection and control by the United States and Great Britain to be rescinded, but territorial arrangements had to be made with Costa Rica as well as Nicaragua.

Nicaragua had treaties with various nations, containing provisions relative to the projected waterway, some of which promised concessions in respect to the use of the canal which Nicaragua could not fulfil if the United States had sole control. These treaties, which would prove embarrassing to both Nicaragua and the United States, the Nicaraguan Government denounced, and also the treaty of 1867 with the United States granting to the United States the right of transit across the territory of the republic by any route, providing for the protection by the United States and the neutrality of all routes of communication, requiring Nicaragua to establish free ports at each end of the route chosen, giving to the United States the right to transport troops and munitions of war provided they were not to be used against any South American power with which Nicaragua was at peace, prohibiting Nicaragua from imposing tolls on the goods or persons of citizens of the United States or of any foreign country higher than were imposed on the goods or persons of citizens of Nicaragua, and permitting the transport of the United States mail by any route of communication. The general provisions of the treaty of 1867, which expires on Oct. 24, 1902, a year from the date of its denunciation, form the basis of a new treaty of commerce and navigation to be negotiated between the two governments. Secretary Hay and Luis F. Corea, the Nicaraguan minister in Washington, signed an agreement in 1901 by which Nicaragua recognizes the right of the United States to construct the canal, and engages to lease the territory through which the canal route passes, including a strip on either side, the lease being equivalent to the cession of the land and sovereign rights over it for so long a period as the canal is maintained under the conditions agreed upon. Freed from all treaty stipulations with any other Government, Nicaragua was able to enter into negotiations with the United States for a new canal treaty embodying the concessions already agreed upon or any others deemed necessary or desirable for the construction of the canal by the United States. The United States, however, was not free to conclude the necessary arrangements until the obligations of the Clayton-Bulwer treaty were canceled. The congressional resolutions declared the treaty to be abrogated, but the Government could not annul its legal obligations by one-sided action. The treaty had no term of years to run or provision for its termination by notification on the part of either of the signatory governments. It could only be terminated or superseded by mutual agreement without a breach of international law. The action of the Senate made negotiations more difficult with a government pertinacious in preserving treaty rights even when they are of no value except as a diplomatic weapon. A new treaty was finally concluded on Nov. 16 and signed at Washington by John Hay in behalf of the United States and Lord Pauncefoot in behalf of Great Britain. Its object was stated to be to facilitate the construction of a ship canal to connect the Atlantic and the Pacific Oceans by whatever route may be considered expedient, and to that end to remove any objection that might arise out of the Clayton-Bulwer convention of April 19, 1850, to the construction of such canal under the auspices of the Government of the United States without impairing the general principle of neutralization established in that convention.

In the treaty previously negotiated, but rejected by the Senate, Great Britain stipulated not only that the canal should remain neutral and

open in peace and war, and should be defended against attack by belligerents, but that other nations should be invited to adhere to these provisions, the rules adopted in the international agreement governing the Suez Canal having been taken as a model. The right of the United States, when called upon to defend itself, to fortify the canal and exclude the vessels of the enemy could not in any case be restricted by treaty, since a state of war abolishes all treaties between belligerents. A clause permanently insuring the neutrality of the canal which is only binding as against neutrals was not objectionable, but any partnership with Great Britain in the responsibility of defending this neutrality was, and so was the stipulation that other nations should be invited to adhere to provisions promising the neutrality of the canal in peace or war and forbidding its fortification or military occupation by the United States. The first article of the new canal treaty with Great Britain states that this treaty supersedes the Clayton-Bulwer convention of April 19, 1850. In the second article it is agreed that the canal may be constructed under the auspices of the Government of the United States, either directly at its own cost or by gift or loan of money to individuals or corporations or through subscription to or purchase of stock or shares, and that, subject to the provisions of the treaty, the United States Government shall enjoy all the rights incident to such construction, as well as the exclusive right of providing for the regulation and management of the canal. The neutrality of the canal for the use of all nations is permanently secured, while this article making the United States the sole guarantor of its neutrality relieves Great Britain of all the responsibility and obligation to enforce them, such as the Clayton-Bulwer treaty imposed upon and which were assumed by Great Britain jointly with the United States. Instead of the provision that the rules of neutrality should be adopted by both nations, the United States alone adopts them and undertakes to carry them out. Any nation observing the rules laid down in the treaty is permitted to enjoy the use of the canal, but no nation is to be consulted as to its construction, operation, or maintenance. In the third article the United States adopts as the basis of the neutralization of the canal substantially the same rules that are embodied in the Constantinople convention of Oct. 28, 1888, for the free navigation of the Suez Canal. These rules guaranteeing the neutrality of the canal and equal treatment of the citizens of all nations are recapitulated as follow: 1. The canal shall be free and open to the vessels of commerce and of war of all nations observing these rules so that there shall be no discrimination against any such nation or its citizens or subjects in respect of the rules on terms of entire equality, conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable. 2. The canal shall never be blockaded, nor shall any right of war be exercised nor any act of hostility be committed within it. The United States, however, shall be at liberty to maintain such military police as may be necessary to protect it against lawlessness and disorder. 3. Vessels of war of a belligerent shall not revictual nor take any stores in the canal except so far as may be strictly necessary, and the transit of such vessels through the canal shall be effected with the least possible delay in accordance with the regulations in

force and with only such internal arms as may result from the necessities of the service. There shall be in all respects subject to the same regulations vessels of war of the belligerents. 4. No troops shall embark or disembark troops or arms in the



war or warlike materials used in the canal except in case of accidental hindrance of the transit, and in such case the transit shall be resumed with all possible despatch. 5. The provisions of this article shall apply to waters adjacent to the canal within three marine miles of either end. Vessels of war of a belligerent nation shall not remain in such waters longer than twenty-four hours at any one time except in case of distress, and in such case shall depart as soon as possible, but a vessel of war of one belligerent shall not depart within twenty-four hours from the departure of a vessel of war of the other belligerent. 6. The plant, establishments, buildings, and all works necessary to the construction, maintenance, and operation of the canal shall be deemed to be parts thereof for the purposes of this treaty, and in time of war, as in time of peace, shall enjoy complete immunity from attack or injury by belligerents and from acts calculated to impair their usefulness as part of the canal.

By the fourth article it is agreed between the contracting parties that no change of sovereignty or of international relations of the country or countries traversed by the ship canal shall affect the general principle of neutralization or the obligations of the contracting parties. The fifth and last article provides for the exchange of ratifications at the earliest possible time within six months of the signature of the treaty, the exchange to take place either in Washington or in London.

The canal commissioners, after examining both routes and the plans and estimates previously made for the completion of the Panama Canal and the construction of one by the Nicaragua route, concluded that the Nicaragua Canal could be built for \$63,500,000 less than the purchase and completion of the Panama Canal would cost, taking the latest and lowest price set by the Panama Canal Company on its franchise and uncompleted excavations. The valuation placed by the commission on the Panama property was \$40,000,000. The total cost for a Nicaragua canal 183.66 miles in length, 300 feet wide, and 35 feet deep, with 4 double locks on each side of Lake Nicaragua and a great dam at Conchuda for regulating the flow of the San Juan river in wet and dry seasons by means of sluices, including a great harbor at Greytown protected by jetties and one at Brito, on the Pacific side, with a jetty, and also 100 miles of railroad at \$75,000 a mile for the conveyance of materials, is estimated at \$189,864,062. The harbor at Greytown, which had 50 feet of water in the middle of the last century, is little better than a lagoon, having nowhere more than half that depth, and only 6 feet of water over the bar. Much less dredging will be necessary at Brito, where the silting is slight compared with Greytown, and the cost of maintenance is therefore much less. The entrance to the canal on both sides will be 500 feet wide and 35 feet deep, and each harbor will have a turning basin 1,800 feet broad, and both will be protected by jetties 3,500 feet long. Lake Nicaragua is 100 miles long and 45 miles wide. For 59 miles the canal runs through its bed, and for 50 miles in the channel of the San Juan river. For 22 miles the lake must be dredged out to give the required depth. The enormous dam on the San Juan river will control the fluctuation of level in the lake, which is 110 feet above the sea in flood and 97 feet in dry weather. The site of the dam is just above the point where the San Carlos river flows into the other, discharging from 100,000 to 200,000 cubic feet of water a second. The dam will cost \$4,000,000, but the cost at the site originally selected

would be \$15,000,000. The auxiliary waste way will add \$2,000,000 to the cost. From Greytown harbor to the first lock the canal runs for 7 miles through swamp, and will cost, including the expense of diverting the San Juan and San Juanillo rivers, over \$5,000,000. The lock will cost nearly \$6,000,000; the section of 11 miles from there to the next lock, including embankments, approach walls, waste way, and the lock itself, will cost nearly \$1,000,000 a mile; in the next section of 17 miles the cost rises to \$1,250,000 a mile. Between the third and fourth locks is a short section of $2\frac{1}{2}$ miles, and after another section of $5\frac{1}{2}$ miles to the fifth lock the canal merges in the San Juan river above the Conchuda dam. These short sections with the dam between them will cost over \$2,000,000 a mile; the San Juan section, a little under 50 miles, not \$500,000 a mile; the Lake Nicaragua section of $70\frac{1}{2}$ miles, a little over \$112,500 a mile, no dredging being needed for 50 $\frac{1}{2}$ miles where the route passes through the middle of the lake. West of the lake for nine miles to the fifth lock the ground rises up to the divide, and here heavy excavation must be made for the canal bed and for great receiving basins intercepting the Rio Grande, Las Lajas, and Chocolate rivers, so that the total cost of this section will be above \$24,500,000, and \$7,500,000 more for the $2\frac{1}{2}$ miles, and including the sixth lock, and over \$7,000,000 more for two miles to and including the seventh lock. To the eighth and last lock it is $2\frac{1}{2}$ miles, and this section will cost nearly \$6,000,000. In the rapid descent the canal follows the valley of the Rio Grande river, which it is necessary to divert from its channel in the sections between the sixth and the last locks. The eighth lock lets vessels down into salt water $\frac{1}{2}$ mile from Brito harbor, and this end section will cost \$500,000. For engineering sanitation, police, and contingencies the estimate of \$158,220,000 for construction is increased 20 per cent., or \$31,614,000. In the earlier surveys the route was 3 miles longer and the plans called for one more lock. The length of canal to be cut is about 74 miles, the length of river and lake 110 miles. There are several deep cuts, one of 200 feet near the Conchuda dam, one of 297 feet at Tamborcito, 26 miles from Greytown, through a ridge of hard rock 3,000 feet thick near the San Juan river. The canal is to have a system of double locks, so that in case one is disabled or closed for repairs traffic will not be interrupted.

NORTH CAROLINA. (See under UNITED STATES.)

NORTH DAKOTA. (See under UNITED STATES.)

NORTHWEST TERRITORIES OF CANADA. Population in 1901, 220,000. Capital, Regina. This part of the Dominion comprises the districts of Assiniboia, Alberta, Saskatchewan, and Athabasca, with the unorganized divisions of Franklin, Keewatin, Mackenzie, and Ungava, and embraces 2,497,427 square miles.

Government.—The Government has changed considerably, in a constitutional sense, in recent years. F. W. G. Haultain, B. A., has, however, been the leading figure in its Council and Executive Committee and finally in its Assembly since 1887. In October, 1897, he became the Territorial Premier, and in the beginning of 1901 he was also Attorney-General and Commissioner of Education. With him were J. H. Ross as Commissioner of Public Works and Treasurer and G. H. V. Bulyea as Commissioner of Agriculture and Territorial Secretary. During preceding years Messrs. Hillyard Mitchell, J. R. Neff, and C. A. Magrath had been associated with him in the Government.

On March 2, 1901, James Hamilton Ross, who had been a member of the Executive Committee or Government since 1895, resigned to accept the Dominion post of Commissioner of the Yukon, and was succeeded by Arthur Lewis Sifton. He was reelected by acclamation. On March 22 two by-elections took place, and the previous members, who had resigned to contest seats for the Commons, were returned by large majorities. Both were Conservatives, but R. B. Bennett was an opponent of the Haultain Government, while R. S. Lake was a supporter.

Legislation.—The Assembly at the beginning of the year had 12 Conservatives, 9 Liberals, and 10 who were either independent or without party affiliations. The Haultain Government had, however, a substantial majority, the Conservative Premier having a large liberal support. He was strongly opposed during the year by many Conservatives.

The Legislative Assembly was opened on May 2, 1901, at Regina, by Lieut.-Gov. Amadée Emanuel Forget. William Eakin was Speaker, Mr. Haultain Premier, and D. H. McDonald, a Liberal in politics, was leader of an opposition that included several Conservatives. The speech from the throne included the following passages:

"In common with the rest of Canada, you must be gratified at the splendid service done on behalf of the empire by our fellow citizens in South Africa. That some of those who volunteered their services have lost their lives must be a cause of the deepest sorrow, and I am sure that you will join me in expressing the greatest sympathy for the relatives and friends of those who have fallen as well as the heartiest welcome to those who have returned.

"In addressing you on the occasion of your last meeting I referred to 'the great disproportion existing between the means at command and the ever-growing necessities of the rapidly increasing population of the territories.' As those necessities have still continued to grow with our population, and there is no substantial increase to the revenue apparently to be looked for, I feel it my duty to call your attention to the absolute impossibility of supplying the ordinary services of the territories with the means at your command.

"During the past few months smallpox, which has been epidemic in all States of the American Union immediately to the south of us, and also in a number of the provinces of the Dominion, made its appearance at several points in the territories. Measures were taken to prevent the spread of the disease, and I am happy to be able to inform you that it is being rapidly stamped out.

"The great losses to crops annually caused by hail-storms, and the hitherto unsatisfactory system of hail insurance conducted as a private enterprise, have led my Government to consider the subject, and a measure will be submitted to you by which it is hoped an effective and economical system of insurance against losses by hail, administered by the Government, will be offered to those wishing to take advantage of it.

"You will be asked to consider a bill to amend and consolidate the law relating to joint-stock companies, by which a more simple and inexpensive process of formation will be provided, and a more complete and comprehensive system regulating companies and cooperative enterprises introduced. Legislation will also be introduced having in view the simplification of the law relating to the establishment and conduct of rural school districts and the method of assessment therein. The desirability of the readjustment of

the basis upon which the local taxes levied in aid of schools are at present made, is also fully recognized, and proposition in regard to this subject will be submitted to you at an early date.

"Your attention will be directed to the enlarging the scope of the Public Works Department by providing means whereby the present impassable may be improved by a drainage-works, as well as simplifying and improving the manner of dealing with the vexed question of roadways. Measures will be submitted for your consideration amending the law respecting steam-boilers, liquor licenses, the administration of civil justice, villages, and local improvement."

Finances.—The public accounts for the year ending Dec. 31, 1900, showed total receipts amounting to \$467,185, and expenditures of the same amount. The revenue included a Dominion grant of \$307,979 for schools, etc., a special grant of \$92,000 to restore public works destroyed by floods, and \$4,000 for another purpose. The sum of \$11,159 represented a reimbursement for certain repairs by the Dominion Public Works Department, and \$4,452 was Dominion interest on school lands. Thus \$419,000 of the revenue was derived from Ottawa. There were a few minor items, such as \$1,200 for licenses to foreign companies, \$1,415 for marriage licenses, \$3,584 for steam-boiler and engineer certificates, \$3,671 received in the Department of Agriculture, and \$30,492 obtained from liquor licenses. The expenses included \$43,951 for civil government, \$22,360 for legislation, \$8,471 for administration of justice, \$175,826 for public works, \$187,741 for education, \$17,216 for agriculture and statistics, \$9,163 for hospitals, charities, and sundries. The local improvement districts trust account showed taxes collected amounting to \$13,384, and expenditures of \$10,188.

The budget speech was delivered by A. L. Sifton in the Assembly on June 7, 1901. He first spoke of the services rendered to the country by the Hon. J. H. Ross, who for so many years had filled the office of Territorial Treasurer. The direct revenue from the Dominion Government for the current year would, he estimated, be \$345,000, and this, with various small and special taxes, would make a total of \$413,000 as the actual revenue to be received. The territories were dependent upon the Dominion Government in financial matters, and their population was too small to permit of any heavy specific taxation. It had therefore been difficult to make ends meet, and the estimates of expenditure for the current year were based upon a promise from the Dominion authorities that their grant on Jan. 1, 1902, would be \$600,000. The estimates in many cases would show an increase over the previous year, and this was especially so in the vote for civil government, to which recent additions to the salaries of members of the Government had been charges. In the Public Works Department there would be an increase from \$187,000 to \$258,000. The amount actually required for what were considered public requirements was \$400,000. There was an increase in the educational grant of 10 per cent., caused by the growth of the population. The Government had gone as far as it was wise to go in taxing the people for local improvements, and yet the stage had not been reached where it was possible to do what ought to be done in necessary constructive work. The whole matter of financial receipts from the Dominion was loosely managed and insufficient for the purpose. "There is no difference of opinion throughout the Northwest Territories as to the fact that we

are not getting and can not get, under present conditions, the amount of money proper to carry on the affairs of the country." The mounted-police force were getting as large a grant as the territorial Government was receiving for carrying on the agriculture, public works, and education of the whole vast region under their care. He estimated \$900,000 as a fair amount under conditions in which they would assume certain responsibilities now accepted by the Dominion.

Education.—The number of school districts erected in 1900 was 49, against 51 in the previous year; the schools in operation numbered 492, against 454 in 1899; the number of pupils enrolled was 20,343 and 18,801 respectively. The average attendance in 1900 was 9,430, and the total grants earned by all the schools was \$163,014, against \$147,547 in 1899. The receipts for the year included \$27,346 of balances in hand on Jan. 1, 1900, \$150,656 from Government grants, \$185,823 from taxes collected during the year, \$67,502 as proceeds of debentures—making a total, with other miscellaneous sums, of \$489,566, against \$416,005 in 1899 and \$340,261 in 1898. The expenditures were \$455,855, including \$234,976 for teachers' salaries, \$79,353 for school buildings and repairs, and \$32,259 for debenture indebtedness. There were \$73,590 due to school districts, chiefly arrears of taxes, and \$156,621 due by school districts. There were 353 licenses to teach granted in 1900, of which 181 were to women and 172 to men. Of the 592 teachers who taught in the territories in 1900, all but 5 per cent. had professional or normal training. The average monthly salary paid to teachers was \$44.39 for the time during which they taught.

Coal.—The production of coal in the territories in 1900 appears, from all accounts, to have increased, but the export decreased from 61,618 tons in 1899 to 31,888 tons in 1900. In his annual report, J. H. Ross declared, under date of Feb. 26, 1901, that the output of 22 mines was 303,730 tons of bituminous coal and 17,549 tons of anthracite. Coal-mining provides occupation for 800 men, and the annual output at nearly all the mines is rapidly increasing.

Agriculture.—G. H. V. Bulyea, Commissioner of Agriculture, presented his annual report on March 1, 1901. The statistics showed a considerable decrease from the preceding year in most of the chief lines of production. Reasons varied in the different districts and territories, but climatic changes seem to have been the main causes. Taking a three-year period as presenting the fairest view of the matter, wheat showed a product of 5,542,478 bushels in 1898, 6,915,623 bushels in 1899, and 4,028,294 bushels in 1900. The acreage was respectively 307,580, 363,523, and 412,864, while the yield per acre was 18.01 in 1898, 19.02 in 1899, and only 9.75 in 1900. In oats the production was 3,040,307 bushels in 1898, or 28.93 to the acre; 4,686,036 bushels in 1899, or 34.81 to the acre; 4,226,152 bushels in 1900, or 24.08 to the acre. In barley the production was 449,512 bushels, or 26.29 to the acre, in 1898; 337,421 bushels, or 23.62 to the acre, in 1899; 353,216 bushels, or 20.72 to the acre, in 1900. Some progress was made in the work of the 19 Government creameries. The number of pounds of butter manufactured increased by 135,000, while the quantity of milk supplied diminished, and the quantity of cream increased. The patrons numbered 1,169 in 1900, the inches of cream supplied were 560,989, the pounds of milk 46,211, against 1,303,221 in 1899, and the pounds of butter made were 637,052, against 501,907 pounds in 1899 and 484,948 pounds in 1898.

The prices of cattle varied throughout the ter-

ritories during the year. Exported cattle from the Calgary and Lethbridge districts brought about \$50 a head, while \$40 to \$42 a head was paid for light cattle. Elsewhere prices went from \$40 to \$45. As a rule, the stockmen obtained \$50 a head for four-year-olds and \$45 for three-year-olds. Yearlings ranged from \$16 to \$18, and two-year-olds from \$23 to \$27.50. The total export of cattle from the territories in 1900 was 55,129 head, compared with 41,471 in the previous year. According to C. W. Peterson, Deputy Commissioner of the Department of Agriculture, "an interesting feature of the cattle business in the territories is the movement from Ontario, Manitoba, and the farming districts of the territories to southern Alberta and western Assiniboia. The importations from Ontario amounted to 11,434, from Manitoba 24,896, from Saskatchewan 738, from eastern Assiniboia 4,996, and from northern Alberta 222, making the total influx of cattle into the ranching districts of the territories 42,286."

The sheep industry of this region in 1900 was prosperous, the total stock 225,000, the home market for wool favorable, and the export market for mutton unlimited. Yet there was no tendency to expansion in the industry. Most of the mutton produced during the year went to British Columbia, and some large shipments of Assiniboia sheep went to Winnipeg. In swine, the territories are reaching the point of supplying the local demand. In 1900 only 670 head of hogs were imported, against 1,925 head in the previous year. Extensive pork-packing establishments have been erected at Edmonton and Calgary.

Autonomy.—The problem of making the territories, with their great area and small population of 98,967 in 1891 and 220,000 in 1901, into a province, came up for practical discussion and preliminary arrangement this year. Dr. T. A. Patrick, M. L. A., in 1898, and Mr. F. W. G. Haultain in 1900, had expressed themselves very strongly in favor of some kind of action to relieve the territories of their disabilities and financial difficulties. The Premier had declared the position to be impossible and the present financial and administrative powers entirely inadequate. In the constitutional sense, there were difficulties over the election law, and the territorial Legislature possessed no power to disqualify a man for membership in its own body. There was no authority to administer criminal justice. Only part of the civil jurisdiction had been granted, and this made two sets of officers necessary. There was no control over the Registry Office, and certain powers were greatly controlled by the federal land titles act. On the other hand, it may be pointed out, the Dominion Government paid all the expenses of the police, the administration of justice, the Lieutenant-Governor's office, the registrar's, the care of the insane, etc., besides giving a direct grant for educational and miscellaneous purposes. These sums amounted, for the year ending June 30, 1900, to \$742,775, but the amount actually granted the Territorial Government was inadequate to their financial needs, and continuous requests for aid were going to Ottawa. Hence the agitation for a new status and revised conditions. The proposals were various and included the annexation of a portion of the eastern section of the territories to Manitoba; the establishment of Saskatchewan and part of Alberta into one province; the centralization of all the districts in one great province; and their division into two provinces.

Annexation to Manitoba.—On March 28 the subject came up for discussion in the Legislature

of Manitoba. T. A. Burrows, in the course of his speech, referred to the smallness of Manitoba and the great area of Ontario, Quebec, and British Columbia. He said that the boundaries defined in 1871 were provisional and tentative, and reviewed the litigation by which Manitoba lost to Ontario about 100,000 square miles. It would now be only fair for the Dominion to help the province by giving it a portion of the territories. To the north was the great district of Keewatin, with important resources and 450,000 square miles of territory, and between it and Hudson Bay, which they were so anxious to connect by rail, was a wedge of the district of Saskatchewan. A rearrangement could be made so as to extend Manitoba in these directions. He concluded by moving the following resolution, which was approved by the Hon. Mr. Greenway and carried unanimously:

"Whereas, The territorial area of the province of Manitoba is small in comparison with the areas of most of the other provinces of the Dominion of Canada, while the machinery of government is as full and complete as would be necessary to govern and administer the affairs of a much larger territory; and

"Whereas, There are districts adjacent to the province of Manitoba that should be comprised within the limits thereof, for the purpose of provincial autonomy, their agricultural, commercial, and educational interests being in a great measure common, and a union thereof would tend to develop and strengthen same; and

"Whereas, In the formation of the said adjacent territory into provinces it is advisable in the public interests to include in the province of Manitoba as much of the area as possible consistent with economical administration; therefore let it be

"Resolved, That a memorial be presented to the Parliament of Canada praying that the boundaries of the province of Manitoba be extended so as to include as much of the said adjacent territory, for the reasons aforesaid, as may be consistent with economical and efficient government and for the welfare and development of the people and territory therein comprised, having in view as one of the objects to be attained the extension of the boundaries of Manitoba northward to Hudson Bay."

In the House of Assembly, at Regina, on May 20, D. H. McDonald, leader of the Opposition, moved a resolution upon this subject, without remark or comment:

"That, in the opinion of this house, no terms should be accepted for the erection of the territories into a province or provinces entailing the annexation of any portion thereof to the province of Manitoba."

The Premier followed and criticized the mover for having nothing to say. He pointed out that the Assembly had no power to accept or reject terms in regard to the boundaries of Manitoba. They could only discuss financial arrangements under the existing constitutional status, and even then they could only propose and recommend. He therefore moved in amendment, seconded by Mr. Bulvey, that

"This house is strongly opposed to any further expansion of the province of Manitoba westward, and is of the opinion that any such expansion would be opposed to the wishes and detrimental to the interests, not only of any portion of the territories affected thereby, but of the territories as a whole."

Prohibition.—In the Legislature, on June 12, Dr. Elliot moved, seconded by A. S. Smith, a

resolution declaring that the evil effects of intemperance upon intemperance were insupportable, and that the enactment and enforcement of total prohibition of the liquor traffic was the only effective method of dealing with the evil; that public opinion in the territories, as evidenced by the recent plebiscite on prohibition, was in favor of such a policy; that the electors should have an opportunity of expressing themselves upon the subject; and that at the next territorial election the question should be submitted to them; that should such a plebiscite show three-fifths of those voting to be in its favor, an act should be passed putting the principle in force within two years from the date of the plebiscite. A. B. Gillis opposed the motion and did not think it possible to enforce such a law. Dr. Patrick was in favor of a state monopoly and control of the liquor traffic. Mr. A. S. de Rosenroll moved as an amendment to the resolution that: "In the opinion of this Assembly the interests of temperance would be promoted by a system of state monopoly of the liquor traffic. Therefore, be it resolved that the Government make inquiries into the working of this system in other countries where it has been adopted, with the object of the introduction of such system into the territories." Mr. Haultain approved of the amendment and declared that he had never believed in the practical application of prohibition. Certainly the territories had not arrived at a stage when it could be effectively enforced. Mr. R. B. Bennett opposed the amendment, though there was also much in the resolution with which he could not agree. A prohibition law, in the present state of public opinion, would be laughed at and be worse than useless. Education and temperance instruction in the schools was the best way of dealing with the evil. The amendment was carried by a vote of 16 to 9.

NOVA SCOTIA, a maritime province of the Dominion of Canada; area, 20,907 square miles; population in 1901, 459,116. Capital, Halifax.

Government and Legislation.—The Government that controlled the province at the beginning and throughout the year was a continuation of the Liberal ministry of W. S. Fielding, which had held office from July 28, 1884, until July 17, 1896, when the Premier resigned in order to accept a portfolio at Ottawa. He was succeeded by the Hon. George Henry Murray, K. C., who had been a member of the Government several years. At the opening of the year the Cabinet stood as follows: Premier and Provincial Secretary, G. H. Murray; Attorney-General, J. W. Longley; Commissioner of Works and Mines, C. E. Church; members without portfolios, Thomas Johnson, A. H. Comeau, A. McGillivray, T. R. Black, W. T. Pipes, D. McPherson. At the end of August, C. E. Church, who had held his portfolio seventeen years, retired and was succeeded by Arthur Drysdale, of Halifax, who had sat in the house since 1891. The Hon. F. A. Laurence was Speaker of the Assembly, as he had been since 1894, and the Hon. Robert Boak was president of the Legislative Council. Messrs. N. J. Gillis, D. D. McKenzie, M. J. Keefe, C. E. Tanner, and A. M. Stoneman were introduced as newly elected members of the Assembly, and the Hon. W. B. Law and Hon. William Chisholm as newly appointed members of the Council. The Legislature was formally opened Feb. 14, with a speech from the throne, of which the following are the significant portions:

"The year which recently closed was on the whole one of very great prosperity in Nova Scotia. In most of the departments of industry in which

our people are employed labor was rewarded by a good return. The development of our coal-mines continues to afford much satisfaction. In connection therewith we can not fail to observe with gratification the progress that has been made in the creation in the island of Cape Breton of great industries for the manufacture of iron and steel.

"Gratifying progress was made during the year in the work of railway extension. The Inverness and Richmond Railway is approaching completion, and the same may be said of the Midland Railway between Windsor and Truro. The projects for the construction of a railway from Halifax to Yarmouth through the south shore counties of the province have not made desirable progress.

"The desirability of larger provision for the promotion of agricultural education will be generally recognized. My Government, regarding this as a movement in which the three maritime provinces might properly cooperate, invited a conference with the governments of the sister provinces of New Brunswick and Prince Edward Island. The representatives of the three governments have agreed on a scheme for the establishing of an agricultural college, subject to the approval of their respective legislatures.

"With the growth of the province comes the need of increased accommodation in those humane institutions which always enlist the interest and sympathy of our people. You will be invited to consider the expediency of enlarging the Victoria General Hospital and the Nova Scotia Hospital.

"The work of preparing and issuing the sixth series of the Revised Statutes of Nova Scotia has been completed, and the volume is now available to the public.

"I am pleased to be able to inform you that the finances of the province are in a very satisfactory condition.

"Measures will be submitted for the protection of the interests of the settlers in future leases of Crown lands, for the further encouragement of dairying, and for the inspection of public offices."

The following were the principal acts passed at this session:

Respecting aid to a railway between Halifax and Yarmouth.

For the protection of persons employed in factories.

To amend chapter lxxiv, Revised Statutes, 1900, "Of the encouragement of manufacturing and shipbuilding by exemptions from taxation."

To amend chapter lviii, Revised Statutes, 1900, "Of the encouragement of agricultural and technical education."

To encourage horticulture.

To amend chapter lii, Revised Statutes, 1900, "Of public instruction."

To amend chapter lii, Revised Statutes, 1900, "The education act."

To amend chapter xxi, Revised Statutes, 1900, "The mines arbitration act."

To amend the coal-mines regulation act.

To amend chapter xxiii, Revised Statutes, 1900, "Of miners' relief societies."

To amend the succession duty act.

To encourage the building of cold-storage warehouses and plant therein.

To amend chapter cxix of the Revised Statutes, 1900, entitled "Prevention of the use of tobacco and opium by minors."

To encourage the building of steel and iron ships in the city of Halifax.

Several acts concerning the charters of coal, iron, electric, and railway companies.

Finances.—On March 5 the Premier and Provincial Treasurer made his annual financial statement for the year ending Sept. 30, 1900. He referred to the almost stationary condition of the revenue that had prevailed for many years in the province, but was now, happily, a thing of the past. During the past three years there had been a substantial balance on the right side, and the Government had been able to deal liberally with the great services of the province, such as education, charities, roads and bridges. Yet they had not been compelled to do as the other provinces had done—resort to direct taxation to make ends meet. Not a dollar was collected from the liquor traffic, nor was there any taxation of home or foreign corporations. In this respect the only change since confederation had been the imposition of succession duties. Wise legislation in dealing with the mineral development of the province was, he believed, the cause of this stability of position. The revenues in 1896 were \$841,159; in 1897, \$832,240; in 1898, \$855,960; in 1899, \$876,827; in 1900, \$1,014,123, in place of the estimated income of \$948,906. The largest item in this amount was the allowance from Ottawa, which last year was \$432,806, and included the federal subsidy and the interest on \$1,056,128 still held by the federal authorities to the credit of the province. During the year under consideration the royalties on mines and minerals had amounted to \$413,874. The average yearly production of coal had increased from 906,268 tons in 1874-'84 and 1,587,959 tons in 1885-'91, to 2,078,065 tons in 1892-1900. The average royalty had grown from \$66,698 in 1874-'84 and \$121,304 in 1885-'91, to \$224,112 in 1892-1900.

Another important source of revenue was the succession duties. The estimate for the year had been \$25,000; the amount received was \$29,688. The estimate from hospitals had been \$47,000; the returns were \$48,574. The other items were small. The total expenditure was \$937,261, leaving a stated surplus of \$76,861. The chief items of expense were as follow: Agriculture, \$39,018; debenture interest, \$147,413; education, \$250,365; public charities, \$128,180; road grants, \$90,850; Legislature expenses, \$50,775; steamboats, packets, and ferries, \$40,864; provincial engineers' office, \$10,909; mines office, \$23,975; Public Works Department, \$24,436; miscellaneous, \$68,028. These amounts, with other items, made up a total of \$937,261.

The expenditure on capital account for the year was \$292,368, including \$77,667 on bridges; \$6,864 on the construction of smaller bridges; \$205,000 for railway subsidies; and \$2,831 on road-making machinery. The total liabilities of the province on Sept. 30, 1900, were \$4,059,517, and against this amount the chief asset was \$1,056,128 held in trust at Ottawa. "This asset, together with some of doubtful value, would make the net debt of the province to the end of the fiscal year \$2,713,301." The Dominion supplementary estimates in April gave \$443,400 to improvements upon the Intercolonial Railway, which is so intimately associated with Nova Scotia affairs. Afterward the province received an award upon its claims regarding the Eastern Extension Railway from the Dominion Government, and the Premier said this sum of \$671,000 would be placed to the credit of the public debt account.

On April 1 the Premier and Provincial Treasurer submitted the estimates of receipts and expenditures for the year ending Sept. 30, 1901. He expected to receive \$1,034,906 from all sources. The principal expenditures which he proposed included \$35,500 on agriculture, \$258,000 on educa-

tion, \$15,000 on Crown lands, \$50,000 on Legislature expenses, \$17,450 on public works, \$25,000 on mines, \$132,100 on charities, \$15,000 on printing, \$50,247 on steamboats, packets, and ferries, \$20,600 on salaries, \$216,405 on road grants, \$148,171 for the payment of debenture interest, \$10,966 for the sinking-fund, \$9,000 for the Miners' Relief fund, and \$11,000 for the refund of succession duties on certain charitable, religious, and educational bequests. Upon bridges, \$220,000 was to be spent out of the capital account.

Eastern Extension Railway Award.—In 1876 the Government of Mr. P. C. Hill, in Nova Scotia, entered into a contract with the Halifax and Cape Breton Railway and Coal Company for the construction of a piece of railway extending from New Glasgow to the Strait of Canso, and undertook to pay, and did pay, a subsidy of \$671,836 for the work done. It was also arranged in the contract that the provincial Government could acquire the road at any time on payment to the company of the amount they had paid out over and above the subsidy received from the Government. In the succeeding year the Dominion Parliament authorized the transfer of the Truro and Pictou branch of the Intercolonial Railway to the person or company constructing a line of railway from New Glasgow to the Strait of Canso. This was duly done, and on April 4, 1880, an agreement was made between the provincial Government and the company by which the former should be at liberty within two years from Nov. 4, 1880, to take over all the railways and property of the company, including the Pictou branch, on paying the actual outlay of the company, exclusive of federal and provincial subsidies. Finally, possession was taken of what was known as the Eastern Extension Railway, the sum of \$1,200,000 was paid over, and a dividend presented to the Federal Government for the transfer of the Pictou branch upon which the profitable operation of the entire road depended. By a federal order in Council of Oct. 20, 1883, two conditions were imposed upon this transfer—one the maintenance of existing through rates, and the other an expenditure of \$800,000 by the province upon rolling-stock. These conditions, the provincial Government declared, were too onerous, the transfer was not accepted, the entire road was ceded to the Dominion authorities, and repayment of the original subsidy of \$671,000 demanded. By correspondence and joint resolution of the two houses at Halifax the claim was pressed, but without success until Sir Wilfrid Laurier's Government took up the matter and appointed a board of arbitration. The decision was:

"1. That the Dominion Government was legally bound to hand over to the province of Nova Scotia the Pictou branch immediately upon the completion of the purchase by the province from the company.

"2. That the conditions imposed by the Dominion Government were illegal and unreasonable, as the Dominion had no right, under the agreement which existed between the two governments and the company, to exact any such condition as to rolling-stock or the tariff; that the quantity of rolling-stock demanded was unnecessary and unreasonable for the efficient working of the road, and that the tariff sought to be imposed was one under which the road could not be operated except at a loss.

"3. That the object of the Dominion Government in imposing said conditions was to make it impossible for the province to take over the road, as the Dominion had decided that it would

not give up the Pictou branch for the reason stated by Sir Charles Tupper in the Dominion Parliament."

Road Grants and the Municipal Councils.—This was a widely discussed subject in the Nova Scotia Assembly, on Feb. 15, the Premier took the opportunity to state his opinion on the subject. He contented himself with the ground that the grants were now made to the representatives of the people, were the channel through which the money could be expended." Mr. C. E. Tanner took issue with Mr. Murray upon this point. "Instead of that, they were carrying out a system which resulted in a division of authority and the frittering away of public moneys. The municipal councils were spending a little money on a road, and a road commissioner was spending a little more money on the same road under a communication issued probably a few days before an election."

The Halifax and Yarmouth Railway.—The members of the Halifax Board of Trade, the mayor and city council of Halifax, and a number of prominent citizens waited on the Premier and his Government, on March 15, to urge the construction of a railway from Halifax to Yarmouth. The Premier replied that the Government had decided to take vigorous action in the matter, and intimated that the wish of the deputation would probably be granted. A few days later a measure was introduced into the Assembly. This bill became law, and on Sept. 1 it was announced that a contract had been signed with Messrs. Mackenzie & Mann, of Toronto, for the construction of the railway from Halifax to Barrington, with a branch from New Germany to Caledonia Corner, a total distance of about 200 miles. Including the provincial arrangement as already outlined, and the Dominion subsidy of \$3,200 a mile, and twice that sum under certain conditions which would no doubt be met, they were to receive \$19,900 a mile, or about \$3,980,000 of a total subsidy. The name announced by the contractors was the Halifax and Southwestern Railway Company. The railway is to be completed by Dec. 31, 1903, and at the end of forty years the amount lent by the Government is to be repaid in full.

Proposed Abolition of the Legislative Council.—The abolition of the Legislative Council has long been a debated question, and many of the existing members were pledged upon appointment to vote for this policy. At the opening of the Legislature, on Feb. 15, Mr. C. S. Wilcox declared that the Government was bound to carry out its oft-stated policy in this connection and demand from the Liberal members of the upper house the redemption of their promises. There were now 19 members in the Council, of whom 16 were pledged to the Government to vote for abolition. This reform had been dangled before the people for twenty years, and yet \$14,000 a year was still being spent to maintain the upper house. Ontario, Manitoba, and New Brunswick were able to conduct their business without this second chamber, and he wished to know why Nova Scotia could not do so, and why this delay was permitted. The Premier replied that the Government policy was the same as ten years ago. "They were in favor of abolition." The reasons, however, had always been financial, and with the existing surplus and prosperous condition they did not operate with the same force. "As a member of the Government, he was not quite clear as to whether the abolition of the Council would be a good thing for the province. He did not think it was doing any harm, but assisted in

passing good legislation." If those who had pledged themselves in the matter had changed their views, they should resign. In the Legislative Council, on March 29, the Hon. W. T. Pipes introduced a bill for the abolition of the Council. His reasons could only be given on the second reading, in accordance with the custom of the house. The president, the Hon. Mr. Boak, received the bill and at once ruled it out of order as opposed to the privileges and rules of the Council. Under decisions of the house adopted on Jan. 29, 1894, and confirmed on Feb. 23, 1897, the measure could not be proceeded with. The president pointed out that in January, 1894, the opinion of three eminent legal gentlemen—Messrs. R. L. Borden, Benjamin Russell, and C. W. Weldon—had been asked as to the status of the pledges given by members of the Council. The answer presented to the house was: "We are clearly of opinion that the giving and the taking of a pledge by which a member of the Legislative Council becomes bound to the political leader for the time being to vote for or against a particular measure is a wholly unconstitutional measure." The committee to which this opinion was submitted reported to the Council on Jan. 26 that they "consider it impossible, so long as such pledges exist or are relied upon by the Government, to obtain the independent judgment of this house upon the question." Mr. Pipes opposed the ruling of the chairman, and moved that it be not sustained. The vote sustained the chairman, 15 to 2, and the measure failed.

Fisheries.—Early in the session the Premier moved a committee of inquiry into fishery conditions, and it was accepted by the house. The report of this committee was presented to the Assembly on April 1 by Mr. Sinclair, as chairman. Meetings had been held and witnesses examined, and they had found that, in proportion as the railway rates to Montreal had been decreased, the trade in fresh fish had increased; that the success at Canso was especially due to this fact, coupled with the establishment of steam communication with railway points; that statistics of the aggregate volume of the fresh-fish trade in the province were unobtainable, but that wherever facilities were provided the progress had been satisfactory; that the advantages to the fishermen in price and in other respects of the fresh-fish trade to that of salt fish were very marked; that the waters of the province contained a practically inexhaustible supply of fresh fish second to none in the world; that, with the exception of live lobsters and a few special varieties, the existing market for fresh fish was chiefly in western Canada, where there was, however, the compilation of the fresh-water fish and the sea-water fish from more favorably situated points on the marine coast. The committee pointed out that the Canadian duty on fish was one half a cent a pound and the American duty one cent a pound. This apparently induced Nova Scotians frequently to buy their schooners in the United States, register them in American waters, and ship American fish to Canada. Under the American registration system the rate of tonnage is less.

The value of the American fish imported into Canada in 1900 was stated at \$661,805. The failure to hold the market was due to adverse duty and the lack of transportation facilities. The committee recommended that the same regulations be applied to the railway transportation of fish that had been adopted by the Department of Agriculture in connection with the shipment of butter and cheese to Montreal. The latest

official figures of the Nova Scotian fisheries available are those of 1899, and they show a production of salmon, \$94,611; mackerel, \$644,864; herring, \$373,401; cod, \$2,530,600; haddock, \$567,766; lobsters, \$1,639,790; hake, \$469,477; pollock, \$197,006; halibut, \$147,316; and miscellaneous, \$682,803. The amount of federal bounty paid to the fishermen of Nova Scotia was \$106,599. The number in receipt of this bounty was 519, the tonnage was 22,538, and the fishermen numbered 5,323. The number of boats in receipt of bounty was 7,235, and the men engaged in them 11,305.

Mines.—On March 5 the Premier made a long reference in the house to the increased sales of coal and the progress of Cape Breton iron and steel industries. To the coal-mines of the province a greatly enlarged market had been given by the development of the Whitney interests. In 1893 the sales of coal to the United States were 16,099 tons, in 1900 they were 624,273 tons. There was steady progress in the mines of Pictou and Cumberland. In the former the production for the year ending Sept. 30, 1900, was 538,884 tons, against 460,236 tons in the preceding year. In the latter the production was 496,804, compared with 437,121 tons in 1899. The Inverness coal-fields were just beginning development, and a well-constructed railway had been run through their centers of production.

The production of gold in the year showed a slight increase—30,999 ounces, against 27,772 ounces in 1899. The milling capacity of the province had been increased by more than 300 stamps.

Eight days after Mr. Murray's speech the report of the Hon. Charles E. Church, Commissioner of Mines, was presented to the house. The total production of coal for the year ending Sept. 30 was 3,238,245 tons, compared with 2,642,333 tons in 1899. The shipment to other countries amounted to only 1,215 tons.

Besides gold and coal, 15,597 tons of iron ore were produced in Nova Scotia in the year, 8 tons of manganese ore, 62,000 tons of coke, 122,281 tons of gypsum, 56,500 tons of grindstones, 50,000 tons of limestone, 783 tons of barytes, 1,100 tons of tripoli and silica, and 600 tons of copper ore.

Agriculture.—The annual report of the Department of Agriculture was presented to the house on March 15 by the Hon. Mr. Murray. He described the progress of this industry as having been very marked, and by way of illustration instanced the growth of agricultural societies. In 1864 there were 37 in the province, with 3,744 members, who subscribed \$1,859, and a Government subscription of \$3,010. In 1894 the number was 80, with 3,986 members and subscriptions reaching \$4,424 from members and \$8,000 from the Government. At the close of 1900 there were 131 societies, with 7,362 members, whose subscriptions amounted to \$9,322. The Government grant was \$10,000. These societies devoted themselves chiefly to the improvement of live-stock. Although they had not all reported, it was clear that 1,200 farmers sent milk to the creameries and cheese factories, and 182 tons of cheese were made by those actually reporting their work.

A week later Mr. Murray proposed the second reading of his bill for the establishment of an agricultural and horticultural school. It was done by agreement with the governments of New Brunswick and Prince Edward Island, and empowered the expenditure of \$50,000 for buildings and farm lands. As it was to be located in their province, the capital expenditure was to be borne by Nova Scotia. The annual expenditure was to be based upon the population of the different

provinces, and was limited to \$10,000. The bill passed in due course. An act was also proposed by the Premier and duly carried for the further encouragement of dairying. An annual appropriation of \$7,000 was provided for establishing schools where special instruction in this subject could be given and for equipping any new creamery that would undertake to manufacture annually for five years not less than 20,000 pounds of cheese.

Education.—The annual report of the Superintendent of Education, Dr. A. H. Mackay, was presented to the Assembly on March 12. The number of schools had increased from 2,390 to 2,417 in the year ending July 31, 1900; the number of school sections without schools had decreased from 146 to 132; the teachers had grown from 2,400 in number to 2,557; the number of

pupils had slightly diminished from 190,617 to 190,129. Those under fifteen years of age, however, had increased from 91,867 in 1899 to 93,043 in 1900; that age the decrease was stated to be probably due to the demands of industrial institutions. The number of normal-school trained teachers had increased from 840 to 887. The amount of ratepayers for schools increased from \$1,100,000 in 1889 to \$510,620 in 1900. The age limit of new teachers in classes D C and B had been advanced one year. The pupils in the common schools numbered 92,880, against 93,043 in 1899; and in the high schools 7,249, compared with 7,574. The total cost per pupil enrolled was \$8.86 in 1900, an increase of 17 cents. The cost per pupil to the Government was \$2.48; to the counties, \$1.19; and to the sections, \$5.18.

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OBITUARIES, AMERICAN. Abbott,

Frank Wayland, oculist, born in Sandoway, Aracan, Burma, Dec. 24, 1841; died in Buffalo, N. Y., April 9, 1901. He was the son of a Baptist missionary, Elisha L. Abbott, and at the age of three was taken to Fulton, N. Y., where he spent his boyhood. He was graduated at Rochester University in 1863, and at Buffalo Medical College in 1867. During the last year of the civil war he acted as an assistant surgeon in the hospitals at Nashville and Chattanooga. He afterward took a post-graduate course in ophthalmology and otology in the New York College of Physicians and Surgeons, and studied in the eye and ear infirmaries of Brooklyn and New York city. In 1869 he settled in Buffalo. He was a member of the staff of the Buffalo General Hospital and the first eye and ear specialist appointed to it. He was also one of the organizers of the Charity Eye, Ear, and Throat Hospital of Erie County, and he assisted in establishing the training-school for nurses at the General Hospital. He was a member of the Erie County and Buffalo City Medical Societies, and of other organizations, and was well known throughout the country for his many charities.

Adams, Herbert Baxter, educator, born in Shutesbury, Mass., April 16, 1850; died in Amherst, Mass., July 30, 1901. He was graduated at Amherst in 1872. The year following he was instructor in Latin and Greek in Williston Seminary, and the following three years he spent in study in Europe, receiving the degree of Ph. D. from Heidelberg University in 1876. From 1876 to 1878 he was a fellow in history at Johns Hopkins University, and he was connected with that institution as Associate Professor and Professor of History from the latter date till his death. He was lecturer in history at Smith College from 1878 to 1881; member and secretary of the American Historical Association, and editor of its reports after 1884; and a trustee of Amherst College and of the Boys' Country School, Baltimore. After 1887 he was editor of the Contributions to American Educational History for the United States Bureau of Education. He was editor of the Johns Hopkins University Studies in Historical and Political Science, which under his direction completed 19 series, with many additional volumes. He was the author of the Life and Writings of Jared Sparks, and of numerous educational and historical monographs.

Aldrich, Louis, actor, born in Cleveland, Ohio, Oct. 1, 1843; died in Kennebunkport, Me., June

17, 1901. His name was Lyon, but early in his career he adopted the name of Aldrich, and later had that name legalized. When he was ten years old he was thrown upon his own resources, and elected to earn his living on the stage. In school he had been noted among his fellows as a declaimer. A benefit performance to Mrs. John Ellsler was being arranged at the Cleveland Theater, and the boy, then about eleven years old, begged John Ellsler to allow him to appear in it. After a single test, Mr. Ellsler let him appear as Richard III in two acts of that tragedy. So extraordinary was his acting that the management engaged him to play the entire tragedy, and billed him as "the Ohio Roscius." He repeated his first success and was immediately taken on the road through the West as a boy star. The lad was first known as Master Moses. Later, when he was starred by Minnie McCarthy, he was called Master McCarthy. Shortly after that he was placed under the guardianship of Thomas Kean, and was billed as Master Kean. Under these names he starred during 1855-'57 in the rôles of Richard III, Macbeth, Shylock, Claude Melnotte, Young Norval, Selim in Barbarossa, and Jack Shepard. In the spring of 1857 he was obliged to leave the stage, as his voice was changing. He took a course of one year at White Water College, Indiana. In 1858 he returned to the stage and used for the first time the name of Aldrich. He appeared with the Marsh Company, which consisted of 25 girls and 4 boys, in St. Louis, and traveled with them five years. The Marsh troupe disbanded in San Francisco in 1863, and Mr. Aldrich became a member of the stock company at Tom Maguire's Opera-House. In 1866 he appeared at the Boston Theater as Nathan in Leah the Forsaken, in support of Kate Bateman, and afterward in New York, at the Academy of Music, as Coitier in Louis XI, in support of Charles Kean. He returned to Boston for seven seasons, and in 1873-'74 was leading man of Mrs. John Drew's company at the Arch Street Theater, in Philadelphia; made a short starring tour in 1874; and was then engaged for forty-six weeks at Wood's Museum (now Daly's Theater). In 1875 and 1876 he was with John Ford in Baltimore, and then he starred as Marc Antony in Julius Caesar. His starring tour was closed in order that he might play the rôle of Salamenes in the grand production of Sardanapalus at Booth's Theater. The play had a successful run in the season of 1876-'77, and Mr. Aldrich won fresh honors. In the play of The Danites the part of

the Parson was very short, but permission was given to Mr. Aldrich to elaborate it, and this he did with marked success. The play was produced on Aug. 22, 1877, and in twenty weeks the net profits amounted to nearly \$30,000. In the season of 1878-79 he played another term of forty weeks in *The Danites*. *My Partner*, written for him by Bartley Campbell, was produced at the Union Square Theater on Sept. 16, 1879, with Mr. Aldrich in the rôle of Joe Saunders. He played it six years steadily, and after that at intervals. The piece was presented in every State of the Union except Arkansas and Texas. After paying Mr. Campbell \$12,000 in royalties, he purchased for \$3,000 the entire author's rights. Mr. Aldrich made an independent fortune with *My Partner*, and then, wishing to rest, he leased the play for two years. In 1887 he and Frank W. Sanger purchased the Western rights to *In his Power* and produced it in San Francisco, but it was a failure, as was also *The Kafir Diamond*. In May, 1890, Mr. Aldrich produced at Palmer's Theater *The Editor*, the joint work of Charles T. Vincent and himself. While playing in Syracuse his company was in the disastrous fire at the Leland Hotel, and Mr. Aldrich sustained serious injuries. After his recovery he played in *The Senator* and in *Surrender*. His last public appearance was in the revival of *Her Atonement*, New York, 1899. In private life Mr. Aldrich devoted the greater part of his time and money to charities among actors. The amount of his gifts was very large, and his work with the Actors' Fund of New York stands as a monument to his broad philanthropy and untiring energy. He was one of the earliest members of the organization, and its president from June, 1897, till June, 1901. With him originated the idea of the home for aged and indigent actors, and it was largely through his efforts that the home fund was procured and building operations begun.

Alexander, Robert, clergyman and editor, born in Belmont County, Ohio, in 1837; died in Philadelphia, Pa., Feb. 27, 1901. He was graduated at Washington College, Washington, Pa., in 1855, and afterward studied theology at Princeton and at Edinburgh. His first charge was at Little Britain, Pa. In 1867 he accepted a call to the First Presbyterian Church, St. Clairsville, Ohio, and was pastor of that church for thirty-two years. Dr. Alexander assumed the editorship of *The Presbyterian*, Philadelphia, in 1899. He was greatly interested in the educational work of the Presbyterian Church, and was for many years a trustee of Washington and Jefferson College and a director of the Western Theological Seminary in Allegheny, Pa.

Allibone, Charles Olden, naval officer, born in Philadelphia, Pa., Sept. 2, 1846; died at Cavité, Luzon, Philippine Islands, April 18, 1901. He was appointed to the Naval Academy from New Jersey, and was graduated in September, 1867. He was appointed ensign Dec. 18, 1868; master, March 21, 1870; and lieutenant, Nov. 2, 1871. Until 1870 he was on the Asiatic station. In 1881 he was assigned to the Lancaster on the European station, and the following year to the Galena on the South Atlantic station. He was promoted to be lieutenant-commander in 1892, served as assistant inspector of the Columbia, and July 3, 1898, received his commission as commander. In the same year he was assigned to duty as lighthouse inspector and served in that capacity till July 1, 1899, when he was placed in command of the gunboat *Wilmington*. His ship was doing duty in the Asiatic squadron at the time of his death.

Anderson, Andrew Mathen, soldier, born in Delaware, Ohio, April 21, 1841; died in Sandusky, Ohio, April 18, 1901. At the outbreak of the civil war he enlisted as a private in the 4th Ohio Volunteers, and he served throughout the war, rising to the rank of captain. He was appointed adjutant of the Ohio Soldiers' Home in Sandusky when it was organized in 1888, and served in that capacity till the death of Gen. Manning F. Force, in 1899, when he succeeded him as commandant.

Archer, Frederic, organist, born in Oxford, England, June 16, 1838; died in Pittsburg, Pa., Oct. 22, 1901. He began his studies under his father in Oxford, and later studied in Leipsic, and in 1852 was made organist of St. Clement's Church and Merton College Chapel. Continuing his studies, he later became organist of the Royal Panopticon, London, and in 1863, with Sir Julius Benedict, conductor of the London Vocal Association. In 1865 he was made organist and choir-master of Christ Church, Lancaster Gate, London; later he served in the same capacity in the church of the Jesuit fathers, leaving this place in 1873 to become organist and orchestral and choral director in Alexandra Palace. In 1879 he was made musical examiner in Glasgow University and conductor of the Glasgow Select Choir, and in 1880 he removed to the United States to accept the organ in Plymouth Church, Brooklyn, N. Y. He afterward served as organist in the Church of the Incarnation, New York city. In 1885 he founded *The Keynote*, of which he was the editor. In 1887 he was chosen conductor of the Boston Oratorio Society and director to the club. In 1895 he became city organist and director of the Carnegie Music Hall, Pittsburg, Pa. He founded the Pittsburg Symphony Orchestra in 1896 and was its conductor till 1898. In addition to his duties at Music Hall he was musical examiner for the University of Toronto after May, 1898; organist and choir-master of the Church of the Ascension, Pittsburg, after January, 1899; and he gave many recitals and concerts, and delivered lectures on musical subjects in Canada and the United States. He was author of an organ school, and he composed considerable music for the organ and the pianoforte.

Archer, Robert S., iron merchant, died in Richmond, Va., March 30, 1901. He was a member of the firm of Joseph R. Anderson & Co., in Richmond, before their plant became the property of the Tredegar Company, and during the civil war, when the Tredegar works were the mainstay of the Confederate Government in the manufacture of heavy ordnance, he was superintendent, with the rank of major. He remained superintendent of the Tredegar works till his death, was president of the Southern Railway Supply Company, and was well known throughout the country in the iron trade.

Armour, Herman Ossian, packer, born in Stockbridge, N. Y., March 7, 1837; died in Saratoga, N. Y., Sept. 8, 1901. In 1855 he went to Milwaukee, Wis., where he engaged in business, and where he afterward became a member of the firm of Armour, Plankinton & Co., which was grown from a small butcher shop into the largest pork-packing business in the world. In 1862 he removed to Chicago and established there the grain commission business that was later known as H. O. Armour and Company. After 1865 he represented the Armour interests in New York.

Armour, Philip Danforth, capitalist, born in Stockbridge, N. Y., May 16, 1832; died in Chicago, Ill., Jan. 6, 1901. He was brought up on his father's farm, and was educated in the district school and at Cazenovia Academy. As soon as he

could be spared from the farm he left for the newly discovered gold-fields of California. Not having the money to go by ship, he set out with



a party of 30 persons from Oneida, N. Y., in the spring of 1852, traveling overland, much of the way on foot. He was successful after reaching California, making several thousand dollars by developing ditches to supply water for placer-mining. He returned home in 1856, but soon afterward went to Milwaukee, where he engaged in the wholesale grocery and commission business with an old

friend, Frederick S. Miles. In 1863 the partnership was dissolved and Mr. Armour associated himself with John Plankington, the pioneer pork-packer. In 1862 his brothers—Herman O. Armour and Joseph F. Armour—had started a grain commission house in Chicago. Philip Armour foresaw that Chicago was to be the center of the packing trade, and he persuaded his brothers to take it up. Later a partnership was formed under the trade name of Armour & Co., the Chicago grain commission business being continued under the name of H. O. Armour & Co. Philip D. Armour's capital had increased to \$2,000,000 at the time of the civil war. In the winter of 1864-'65 pork was selling at \$40 a barrel, with an upward tendency. Although an immense trade in pork was then done in Chicago, New York was the real center of the business, and most of the packers and operators were buying liberally for future use, being firm believers in the continuance of high prices. Mr. Armour saw that the war was nearing its end, and that when the Confederacy fell pork prices would fall with it. One day the New York operators were amazed at a young man from Milwaukee who came among them and offered all the pork they would take at \$40 a barrel. They were amazed still more when there was a sudden break and the price went down to \$30. But even at that price Armour kept on selling. Soon Petersburg fell and Richmond was evacuated. Then pork collapsed. Mr. Armour began to deliver the goods he had sold at \$30 to \$40 at \$18. There was a panic among the bulls, and some of them tried to repudiate their contracts. Even Mr. Armour's brokers turned against him, but he pressed his debtors and forced them to settle. In this deal he is said to have netted more than \$2,000,000. After the war the Armour business grew enormously. In 1875 Mr. Armour removed to Chicago, where he remained in charge of the great central plant. A remarkable feature of the growth of the business is the manner in which all the Armour brothers worked together. One of the six, Charles Eugene, enlisted in the Union army and died in a Union hospital in 1863. The other five were, sooner or later, all engaged in the firm. In recent years the annual business of the firm has exceeded \$100,000,000, and more than 11,000 persons are in its employ. While Mr. Armour's name was more generally associated with his packing establishment, he was actively interested in many other enterprises. As the owner of an important system of grain-elevators, and as a heavy investor in the grain products of the Middle and Western States, he was an important factor in the grain markets. Among Mr. Armour's

numerous charities the most notable is the Armour Mission, the Armour Educational and Armour Institute, all in Chicago. The mission was established by a bequest of \$100,000 by Philip Armour, more than doubled by Philip, his executor. The Armour Flats comprise 213 apartments, which are rented at moderate prices to working men and their families. They adjoin the mission, and the net proceeds go to its support. The mission flats are said to be worth \$3,000,000. The Armour Institute was established at an original cost of \$1,500,000, to which sum Mr. Armour added \$750,000 in 1899. It offers business and technological courses, and has a fine gymnasium and library. It was opened in September, 1893, with 600 pupils.

Arnold, Abraham Kerns, soldier, born in Bedford, Pa., March 24, 1837; died in Cold-Spring-on-Hudson, N. Y., Nov. 23, 1901. He was graduated at West Point in 1859 as brevet 2d lieutenant, 2d United States Cavalry. He was promoted 2d lieutenant, June 28, 1860; 1st lieutenant, April 6, 1861; and regimental adjutant, June 1, 1861. The designation of the regiment was changed to 5th Cavalry, Aug. 3, 1861, and in it he became captain, July 17, 1862. His later promotions were major, 6th Cavalry, June 22, 1869; lieutenant-colonel, 1st Cavalry, June 11, 1886; colonel, 8th Cavalry, Feb. 7, 1891, and he was transferred to the 1st Cavalry, April 22, 1891. He received brevets of major, June 27, 1862, "for gallant and meritorious services at the battle of Gaines's Mill," and lieutenant-colonel, May 6, 1864, "for gallant and meritorious services at the battle of Todd's Tavern," and was awarded a medal of honor for conspicuous gallantry in a charge on the enemy in action at the Davenport bridge, North Anna river, May 18, 1864, while captain, 5th United States Cavalry, commanding the regiment. After graduation he served at the cavalry school at Carlisle Barracks, till October, 1860, when he conducted a detachment of recruits from New York to Fort Inge, Texas, where he joined his troop, Dec. 2, 1860. In February, 1861, he conducted the last scout against Indians in Texas, before the State seceded, and he reached the seacoast and embarked for New York in April without being made a prisoner. His regiment was re-equipped at Carlisle, Pa., and its designation changed to 5th United States Cavalry. With it he participated in Patterson's campaign in the Shenandoah valley and was engaged at Falling Waters, July 4, 1861. He served in the defenses of Washington, August, 1861, to March, 1862, when he joined the Army of the Potomac and took part in the Peninsula campaign, and was severely wounded at Gaines's Mill. In September, 1863, he joined the 5th United States Cavalry and commanded it at Bristoe Station and Rixleyville, October, 1863. He took part in the raid to Charlottesville, February, 1864; combat at Todd's Tavern, May 7, 1864; Sheridan's raid to Haxall's Landing, and actions at the crossing of the South Anna river, and Beaver Dam, May 10, 1864; and battle of Yellow Tavern, May 11, 1864. The regiment was with Sheridan on his raid to Gordonsville, and in the battle of Trevillian Station, June 11 and 12, 1864. Major Arnold was detailed as instructor of cavalry tactics at West Point, Aug. 24, 1864, and continued on this duty until Aug. 28, 1869, when he joined the 6th United States Cavalry in Texas. During the following twenty-nine years he served mostly with his regiment in Texas, Kansas, Arizona, and New Mexico, taking part in many Indian campaigns and receiving high commendation. Soon after the breaking out of the Spanish War, May 4, 1898, he was made brigadier-general.

dier-general of volunteers, and he served as such until honorably discharged, May 12, 1899. He was in command of the cavalry division at Chickamauga Park, Ga., from April 25, 1898, to May 17, 1898, when he was assigned to command the 2d Division, 1st Army Corps; commanding cavalry division at Tampa, Fla., May 20, 1898; commanding 2d Division, 7th Army Corps, May 28, 1898, till Oct. 29, 1898, and temporarily in command of 7th Army Corps; commanding cavalry brigade, Oct. 30, 1898, to Jan 10, 1899, and temporarily in command of 4th Army Corps; ordered to Cuba, and was in command of the 2d Division, 7th Army Corps, Jan. 16, 1899, to April 1, 1899. He was retired from active service March 4, 1901.

Babcock, Maltbie Davenport, clergyman, born in Syracuse, N. Y., Aug. 3, 1858; died in Naples, Italy, May 18, 1901. He was graduated at Syracuse University in 1879, entered Auburn Theological Seminary, and was graduated there in 1882. In January of the senior year in Auburn he was called to the First Presbyterian Church in Lockport, N. Y. He served as its pastor till October, 1887, when he accepted the call of the Brown Memorial Presbyterian Church in Baltimore, Md. As its pastor he was eminently successful, winning a place for himself in the hearts of people of all creeds and in all walks of life and society. Every effort was made by the citizens of Baltimore to retain him when in 1899 he was called to the Brick Presbyterian Church in New York city. He began his duties there in January, 1900. In February, 1901, he sailed with a party of friends to visit Italy, Egypt, Palestine, Syria, and Constantinople. He was taken ill with Mediterranean fever on the steamer on the way from Constantinople to Brindisi, and after an illness of a week died in the International Hospital, in Naples. A volume of poems and selections from his prose writings and sermons, *Thoughts for Every-Day Living*, was edited by his wife and published in 1901.

Bacon, Charles A., educator and astronomer, born in Brattleboro, Vt., in 1860; died in Beloit, Wis., Nov. 6, 1901. He was graduated at Dartmouth College in 1883. During 1883 and 1884 he was instructor in science and mathematics in Hallowell Classical Academy, and in 1884-'85 instructor in science in Wakefield, Mass. In 1885 he went to Beloit College to assume charge of the new Smith Observatory, wherein he spent several years in study and observation. He was a brilliant mathematician and astronomer, and attained a world-wide reputation through his discussions of meteoric showers, sun-spots, and eclipses. He had been physically helpless for six years, but continued to teach his classes till his death.

Ballard, Charles Henry, inventor, born in Leominster, Mass., June 9, 1822; died in Worcester, Mass., Aug. 9, 1901. As a boy he showed great liking for everything connected with machinery, and his ingenuity was the wonder of his native village. When he was about fifteen years old he made a desk out of an old walnut table, which he bound with brass that he was allowed to work at the village blacksmith shop. In this desk he constructed a secret drawer opened by a hidden spring. Over this drawer experts worked after his death, but failed to find either the drawer or the manner of opening it. At the outbreak of the civil war he had for some time been foreman in the factory of Ball & Williams in Worcester. In 1860 he obtained patents on a breech-loading rifle. It was of 42 caliber and was especially adapted to cavalry use, and it was used exten-

sively during the war. In 1862 Ball & Williams employed 200 men in turning out this arm. In the latter part of his life Mr. Ballard engaged in the manufacture of hand-vices. Though he retired from active life several years before his death, he retained the reputation of being one of the finest workmen in his trade, and he never lost interest in invention, leaving many patterns unfinished at his death.

Ballard, Stephen, philanthropist, born in Andover, Mass., Sept. 9, 1815; died in Brooklyn, N. Y., Aug. 11, 1901. He began business as a lumber-merchant, and for many years he was agent for the Amoskeag Manufacturing Company in Manchester, N. H. After 1858 he was engaged in the belting business in New York city, and in 1897 he retired. He was treasurer of the White, Potter, Page Manufacturing Company till his death. He founded the Ballard School for Colored Persons in Macon, Ga., and for the last fifteen years of his life was its chief support. He also gave liberally to the Afro-American schools at Livingston College, Salisbury, N. C., Tougaloo, Miss., and Berea, Ky. He was one of the earliest members of the Central Congregational Church of Brooklyn, and was one of its trustees. He rendered aid to other denominational churches, and gave two apartment-houses to be used in connection with the work of the Young Men's Christian Association.

Bancroft, Cecil Franklin Patch, educator, born in New Ipswich, N. H., Nov. 25, 1839; died in Andover, Mass., Oct. 4, 1901. He was graduated at Dartmouth College in 1860, and at Andover Theological Seminary in 1867, having served from 1860 to 1864 as principal of an academy in Mount Vernon, N. H. He studied at the University of Halle, Germany, and late in 1867 became principal of Lookout Mountain educational institutions in Tennessee, where he remained till 1872. He was ordained in the Congregational ministry May 1, 1867, but he never became a pastor. In 1873 he became principal of Phillips Academy, Andover, Mass., in which capacity he served till his death. Dr. Bancroft received the degree of Ph. D. from the University of the State of New York in 1874, that of Litt. D. from Williams College in 1891, and that of LL. D. from Yale in 1892. He was a trustee of Andover Theological Seminary, and after 1897 of Dartmouth, and was active in many other educational, religious, and charitable institutions. He gave many addresses and wrote much for the periodical press on religious and educational subjects.

Barker, William Morris, clergyman, born in Towanda, Pa., May 12, 1854; died in Tacoma, Wash., Feb. 21, 1901. He studied at the University of Pennsylvania and at the Berkeley Divinity School in Middletown, Conn., and was admitted to deacon's orders in the Protestant Episcopal Church in 1879 and to the priesthood in 1880. After serving as an assistant for a year and a half in churches in Troy, N. Y., and Washington city, he was for six years rector of St. Paul's Church in the latter city. He was successively rector of St. Luke's Church, Baltimore, Md., and St. Paul's Church, Duluth, Minn., and on Jan. 25, 1893, he was consecrated bishop of the newly established missionary diocese of Western Colorado. In 1894 Bishop Barker was translated to the missionary diocese of Olympia, comprising the western half of the State of Washington.

Bartlett, Charles G., soldier, born in West Point, N. Y., in 1839; died in New York city, June 14, 1901. He was a son of the late Prof. William H. Bartlett, of West Point. On April 17, 1861, he was appointed a sergeant in the 7th Regi-

ment of the National Guard. He was honorably discharged on May 8 of the same year, and accepted a commission as captain in the 5th Regiment, New York Volunteers. He was mustered out, Sept. 8, 1861, having been appointed captain in the 12th Regular Infantry. He served with this regiment until appointed lieutenant-colonel of the 150th New York Volunteers, Sept. 29, 1862. He became colonel of the 119th United States Colored Infantry, May 10, 1865, having been brevetted major (May 14, 1864) and lieutenant-colonel (March 13, 1865) in the regular army for gallant and meritorious service in the battle of Resaca, Ga., and brigadier-general (March 13, 1865) for efficient service throughout the war. In the regular army he was transferred as captain to the 30th Infantry, Sept. 21, 1866, and to the 4th Infantry, March 23, 1869. He was made major of the 11th Infantry, Jan. 10, 1876; lieutenant-colonel of the 1st Infantry, March 10, 1883; and colonel of the 9th Infantry, April 23, 1890. He was retired, at his own request, May 1, 1896. He served as librarian in the district-attorney's office in New York city in 1898-1901. Gen. Bartlett was drowned in the sinking of the Staten Island ferry-boat Northfield in collision with another ferry-boat off her pier at South Ferry.

Batchelder, Richard Napoleon, soldier, born in Meredith (now Lakeport), N. H., July 27, 1832; died in Washington, D. C., Jan. 4, 1901. In early life he showed an uncommon aptitude for business. He was director in a State bank and a trustee of savings-banks, and was largely interested in railroad construction. In politics he was a Republican, and for two years he held the most important financial office in the State, and for two terms served in the Legislature. In April, 1861, he enlisted in the 1st New Hampshire Infantry, and on May 2 he was made lieutenant and quartermaster. In June, 1861, he was appointed quartermaster of the 7th Brigade, Army of the Shenandoah. In March, 1862, he became chief quartermaster, 2d Division of the 2d Corps, and he was present at the battles of Fair Oaks, Savage Station, White Oak Swamp, Glendale, Malvern Hill, Antietam, and Fredericksburg. In August, 1861, he had been made captain of volunteers, and Jan. 1, 1863, lieutenant-colonel and quartermaster of the 2d Corps. While in this corps he took part in the battles of Chancellorsville and Gettysburg, the operations at Mine Run, and the battles of the Wilderness, Spottsylvania, North Anna, and Cold Harbor, and he was especially commended in the reports of Gens. Hancock, Couch, Sedgwick, Meigs, Ingalls, Meade, and Grant. When Gen. Grant assumed the direction of the army in 1864, Batchelder was made chief quartermaster of the Army of the Potomac, then under Meade. He was brevetted, March 13, 1865, major, lieutenant-colonel, colonel, and brigadier-general of volunteers, and major, lieutenant-colonel, and colonel United States army, and at the close of the war he was attached to the regular army as a quartermaster on the request of Grant. His advance in the regular establishment was: Captain, Feb. 16, 1865; major, Jan. 18, 1867; lieutenant-colonel, March 10, 1882. On June 26, 1890, he was appointed brigadier-general and quartermaster-general of the army, and served in that capacity till his retirement, July 27, 1896, on reaching the age limit of active service. During the years that he was quartermaster-general at Washington he effected many improvements in the service. Change of boots and shoes was provided for the privates in the army; the new style of rubber blanket was adopted; a canvas legging for the mounted trooper in the Southwest was put

into use; sanitary methods in the collection and distribution of garbage at army posts were introduced, crematories and sanitary earth-burial provided; the architecture of the new post-houses far superior to any hitherto known in this country; the water-supplies of the different posts replenished; and the national cemeteries beautified and laid out in the proper order.

Belknap, Charles, naval officer, born in Jersey City, N. J., Aug. 25, 1846; died in Baltimore, Md., June 15, 1901. He was appointed to the Naval Academy in 1864, and received his commission as ensign, Dec. 18, 1868. His subsequent advancement was as follows: Master, March 21, 1879; lieutenant, March 21, 1871; lieutenant-commander, Feb. 12, 1889; and commander, Dec. 6, 1896. He was one of the most efficient officers of the navy, and saw much sea service on the old line ships. He was three times instructor in physics and chemistry, and later torpedo instructor in the Naval Academy. He was assigned to the command of the training-ship Dixie, Dec. 4, 1899.

Benedict, Charles L., jurist, born in Newburg, N. Y., March 2, 1824; died in New York city, Jan. 8, 1901. He was graduated at the University of Vermont in 1844, studied law, and became a partner in the firm of Benedict, Burr & Benedict. In 1861 and 1862 he was a Republican member of the New York Assembly, and while in Albany he met and formed a lasting friendship with Gen. Benjamin F. Tracy, with whom he afterward practised law under the firm name of Benedict, Tracy & Benedict. In March, 1865, President Lincoln appointed Mr. Benedict to be judge of the Eastern District of New York. Judge Benedict served for thirty-two years on the bench, resigning in June, 1897. He achieved a high reputation for his decisions in admiralty and for his fairness in criminal cases.

Bergholz, William R., engineer, born in Hanover, Germany, April 14, 1832; died in New Rochelle, N. Y., Jan. 16, 1901. He was graduated at the Polytechnical School in Hanover and at the Royal Academy of Engineers in Munich. At the age of twenty-one he came to America, and lived for a while at the home of the German consul in Montreal. Then he went to Burlington, Vt., and laid out the gardens of Le Grand B. Cannon. When the civil war began Mr. Bergholz was in the South, and he was one of the few engineers familiar with the railroads of the Southern States who were willing to serve with the National troops, and Gen. Sherman put him on his staff with the rank of major. He served with Sherman till the close of the war, and afterward devoted himself chiefly to railroad-building. He laid the Southern Pacific Railroad through Texas, the Alliance and Lake Erie Railroad in Ohio, the Pittsburg and Buffalo Railroad, and several other lines and extensions. One of his greatest achievements in the railroad business was obtaining the right of way from the United States Government for the West Shore Railway to go through West Point. In 1878 Major Bergholz was one of the engineers employed by the Russian Government in dredging the mouth of the Neva. He was interested in many of the lines that he had built, and accumulated a fortune from these interests. In 1870 he laid out the large country property at New Rochelle, known as Highwood, covering hundreds of acres, and abounding in lakes, shrubbery, and rare scenery.

Bishop, Joel Prentiss, author, born in Volney, N. Y., March 10, 1814; died in Cambridge, Mass., Nov. 4, 1901. He was educated at White-stone Seminary, Oneida Institute, and Stockbridge Academy. At the age of twenty he left his

father's farm to carry on his studies, earning the money for tuition and books by teaching. Hard work and study soon broke down his health, and in 1835, having become deeply interested in the slavery question, he accepted the office of general business manager, publishing agent, and assistant treasurer of the New York Antislavery Society, and assistant editor of *The Friend of Man*, an antislavery paper published in Utica. He removed to Boston in 1842, and in 1844 was admitted to the bar. He practised for a time, but the success of his Commentaries on the Law of Marriage and Divorce and Evidence in Matrimonial Suits (1856), influenced him to devote his entire time to the writing of law-books. The honorary degree of Doctor Juris Utriusque was conferred by the University of Bern, Switzerland. He was a trustee of the Social Law Library from 1844 to 1871, and in the early fifties he was tendered the appointment of Chief Justice of the Hawaiian Islands by King Kamehameha III. He never held public office. His other important law treatises are: *Marriage, Divorce, and Separation*; *Commentaries on Criminal Law* (2 vols., 1856-58); *New Criminal Law*; *Criminal Procedure*; *First Book of the Law*; *The Law of Married Women*; *Statutory Crimes*; *Law of Contracts*; *The Written Laws*; *Directions and Forms*; *Non-Contract Law*; *New Criminal Procedure*. He also wrote *Thoughts for the Times*; *The Law of Nolle Prosequi in Criminal Cases*; *Secession and Slavery*; *Strikes and their Related Questions*; and *Common Law and Codification*. He was also an occasional contributor to periodicals.

Blaisdell, Elijah W., politician, born in Montpelier, Vt., in 1826; died in Rockford, Ill., Jan. 14, 1901. In 1853 he settled in Rockford, Ill. He purchased the Rockford Forum, changed its name to *The Republican*, and began an agitation against slavery. He advocated forming a party that should stand against the extension of human bondage. He called a mass meeting of the citizens of his congressional district and offered a resolution that a new party should be formed to be known as "the Republican party," and it was passed without a dissenting voice. Shortly afterward Mr. Blaisdell attended the convention in Springfield and listened to the great antislavery speech of Abraham Lincoln. The trend of the speech led the editor to urge Lincoln for the presidential nomination of the Republican party, then forming.

Blodget, Lorin, statistician and economist, born near Jamestown, N. Y., May 25, 1823; died in Philadelphia, Pa., March 24, 1901. He was educated at Jamestown Academy and at Geneva (now Hobart) College. In November, 1851, he was made an assistant in the Smithsonian Institution. His earliest work was researches in climatology. His papers on atmospheric physics were among the first published in this country, and performed an important part in establishing the science in the United States. From 1852 till 1856, in the employ of the War Department on the Pacific Railway survey, he directed the determination of altitudes and gradients by means of the barometer. In 1863 he took charge of the financial and statistical reports of the Treasury Department, and was connected with that department till his resignation from Government service in 1877. He was appraiser-at-large of customs from 1865 till 1877, and special assistant of the Treasury Department in 1874 and 1875. He was secretary of the Philadelphia Board of Trade from 1858 till 1865; editor of the Philadelphia North American from 1859 till 1864; and four times was in charge of the industrial census of Philadelphia.

His writings, besides editorials, amount to 150 volumes and 350 pamphlets. His *Climatology of the United States*, and of the Temperate Latitudes of the North American Continent (1857) was highly praised by Humboldt, and reached a large circulation both in America and abroad. His *Commercial and Financial Resources of the United States* (1864) sold more than 30,000 copies, was reprinted in Nuremberg, and did much to sustain American credit in Europe.

Bolton, Charles Edward, lecturer and author, born in South Hadley Falls, Mass., May 16, 1841; died in East Cleveland, Ohio, Oct. 23, 1901. After graduation at Amherst College in 1865 he engaged in business in Cleveland, and patented several inventions. He traveled extensively in America and Europe, and took a deep interest in economic problems, to the study of which he devoted much time in his later years, giving talks to the workmen in the various workshops of Cleveland in furtherance of his plans for educational improvement. He founded the Cleveland Educational Bureau, which for several seasons gave educational entertainments to large audiences. He was several times mayor of East Cleveland, a locality which he described in an article in the *Review of Reviews* for November, 1899, under the heading *A Model Village*. He published *Notes from Letters* (1892), *A Few Civic Problems of Greater Cleveland* (1897), and *A Model Village and Other Papers* (1901).

Boutelle, Charles Addison, Congressman, born in Damariscotta, Me., Feb. 9, 1839; died in Waverly, Mass., May 21, 1901. His father was a shipmaster, and after giving his son such education as could be obtained in the public schools of Brunswick and at Yarmouth Academy, allowed him to choose his own profession. Young Boutelle went to sea at the age of fifteen and followed a seafaring life till the close of the civil war. He became a master in 1860, and returning from a foreign cruise in 1862, promptly offered his skill and experience in the naval service of his country. He was commissioned acting master in the navy, and served in the North and South Atlantic squadrons and the West Gulf squadron, taking part, on the gunboat Paul Jones, in the blockade of Charleston and Wilmington, in the Pocotaligo expedition, the capture of St. John's Bluff, and the occupation of Jacksonville, Fla. He was detached June 28, 1863, but returned to duty Aug. 27 of the same year. While an officer of the United States steam gunboat *Sassacus* he was appointed to the grade of acting volunteer lieutenant for gallant conduct in the engagement with the Confederate ironclad *Albemarle* on May 5, 1864. As commander of the United States steamship *Nyanza* he served under Farragut, participating in the battle of Mobile Bay, and receiving the surrender of the Confederate fleet. He was also for a time in command of the naval forces in Mississippi Sound. He was honorably discharged from the service at his own request, Jan. 14, 1866. For a short time he was the captain of a steamer running between New York and Wilmington, and afterward he engaged in the commission business in New York city. In 1870, at the suggestion of James G. Blaine, he was chosen managing editor of the *Bangor Whig and Courier*, Bangor, Me. In May, 1874, he became its proprietor, and remained its owner till his death. His editorial articles at once brought him conspicuously before the community, and he soon became recognized as a factor in the political life not alone of Maine, but of all the Eastern States. He held prominent places in the delegations to the Republican National Conventions of 1876, 1880, 1884,

and 1888. In 1880 he was nominated for Congress, but was defeated by Dr. George W. Ladd, of Bangor, by 855 votes. His opponent had carried the previous election by nearly 3,000 majority, and Mr. Boutelle was encouraged to be a candidate again in 1882. He was elected, and represented the 4th District of Maine continuously from that time till December, 1900, when he resigned his seat, and by special enactment was made (March 1, 1901) a captain on the retired list of the navy in consideration of his services in the civil war. He was the leading Republican on the Committee on Naval Affairs in every Congress from the Forty-eighth to the Fifty-seventh, and five times served as its chairman. He drafted and secured the passage of the measures that secured the construction of the first three modern battle-ships in the new navy, and the swift commerce destroyers Columbia and Minneapolis. He insisted from the first on the thorough Americanization of the navy in all its departments, and secured the provision in all the appropriations that the materials of American ships should be of American manufacture. To this policy and to his faith in the superiority of American ships from American manufactures is largely due the perfection of the steel-armor plants and the building up of the great gun factory in Washington, where the most powerful and efficient ordnance in the world is produced. Mr. Boutelle was a popular and efficient speaker, and took an active part in all questions that came before the House of Representatives. In the Fifty-third Congress he forced the Hawaiian question till the Cleveland administration was forced to show its hand, and in the Fifty-fourth Congress he voted alone against the Venezuelan resolutions and the recognition of Cuba. He voted against hastily rushing into the war with Spain, but at the same time labored to bring the navy into its most efficient condition, and to him largely is due the preparedness with which it finally entered upon the war and the great victories that brought the struggle to its speedy termination.

Bradbury, James Ware, United States Senator, born in Parsonfield, Me., June 10, 1802; died in Augusta, Me., Jan. 6, 1901. He attended the public schools of Parsonfield, Saco, Limerick, and Effingham and Gorham Academy, and then entered the sophomore class of Bowdoin College in 1822 and was graduated third in the famous class of 1825, that included Longfellow and Hawthorne. After graduation he was principal of Hallowell Academy one year, and then studied law. He opened a school in Effingham, N. H., in 1829, for the instruction of teachers, believed by some to have been the first normal school in New England. He began the practise of law in Augusta in 1830, and in 1833 went into partnership with Horatio Bridge, and in 1853 began the association with Gov. Lot M. Morrill that lasted for many years. He was county attorney from 1834 till 1838, and for a time edited the Maine Patriot. In 1844 he attended the National Democratic Convention, and in the same year was president of the electoral college of the State. In 1846 he was elected to the United States Senate, and he served his full term, but declined a renomination. He served as chairman of the Committee on Printing and of a select committee on the French spoliation claims.

Brewerton, George Douglas, soldier and author, born in Rhode Island, about 1820; died in New York city, Jan. 31, 1901. He joined Stephenson's regiment of California Volunteers in 1846 as 2d lieutenant, became 2d lieutenant in the 1st United States Infantry, May 22, 1847, and 1st

lieutenant in June, 1850. In 1852 he resigned. He published *The Automaton Battery* (1862), *The Automaton Company* (1863), and *The Automaton Battery* (1863), devices for the selection of military recruits, which were extensively in connection with the regular books of tactics. He was the author of several other books, including *The War in Kansas: A Rough Ride on the Border among New Homes and a New People* (1856); *Fitzpoodle at Newport* (1861), and *Ida Lewis* (1869).

Brinker, Henry, born in Hanover, Prussia, March 17, 1831; died in Rochester, N. Y., Sept. 15, 1901. He was educated in the common schools of his native country, and in April, 1851, arrived in New York and became clerk in a store. In two years he had saved enough to embark independently in the commission business, and two years later established a ship-building business. He built many boats, among others the steamboat Henry Brinker, that was bought by the United States Government and rendered good service during the civil war. He enlisted in the 3d New York Cavalry in 1855, passed through all the intermediate grades, and served as major-general of the National Guard on Gov. Tilden's staff, and commanded the militia at the Hornellsville strike of 1877. After 1871 he resided in Rochester. He was interested in several railroads, was one of the founders of the Germania Fire Insurance Company of New York, and was a director of the Sun, St. Nicholas, and Amsterdam insurance companies. In all he was president, vice-president, or director of more than forty corporations at his death. Gen. Brinker had visited every country of the world excepting China and Australia. In 1868 he was a guest of Emperor William of Germany, and was for six weeks a special officer on the staff of Gen. von Foltzate.

Brogden, Curtis Hooks, politician, born in Wayne County, N. C., Dec. 6, 1816; died in Goldsborough, N. C., Jan. 5, 1901. His early days were spent on the farm and in attendance at the district school. He studied law and was an active member of the State militia, in which he attained the rank of general. He was presiding judge of the Wayne County court for several years. He was elected to the Legislature in 1838, and served continuously in one house or the other till 1856, when he was elected Comptroller of the State and by successive elections occupied that office from Jan. 1, 1857, till Jan. 1, 1867. He was a Republican presidential elector in 1868, and was appointed collector of internal revenue in 1869, but declined the office. He was again elected State Senator in 1868 and 1870, and in 1872 became Lieutenant-Governor. On the death of Gov. Caldwell, in 1874, he succeeded to the office of Governor, serving till 1877. In 1876 he was elected to Congress as a Republican, and he served from March, 1877, till March, 1879. He was again a member of the Legislature in 1886.

Brown, Charles Henry, physician, born in New York city, June 18, 1856; died there, Oct. 15, 1901. He was graduated at New York University, in the medical department, in 1879, receiving the highest honors in his class. He practised in New York city, and was at different times connected with the New York Dispensary, the Post-Graduate and the Presbyterian Hospitals, and the outdoor work of Bellevue Hospital; and he was a member of the County Medical Society and of the Academy of Medicine. In 1889 he became managing editor, and later owner, of *The Journal of Nervous and Mental Diseases*. By his ability and energy he widened its scope and brought it to a high standard of excellence as the recognized

official organ of the American Neurological Association, and of the New York, the Philadelphia, and the Chicago Neurological Societies.

Bruce, John, jurist, born in Stirlingshire, Scotland, Feb. 16, 1832; died in Waters Park, Pa., Oct. 1, 1901. He was brought to the United States by his parents in 1840, who settled on a farm in Wayne County, Ohio. He was graduated at Franklin College, New Athens, Ohio, in 1854, removed to Iowa, and, being admitted to the bar in 1856, practised in Keokuk till the outbreak of the civil war. He enlisted in the National army, and attained the rank of colonel and was brevetted brigadier-general. After the war he became a cotton-planter in Alabama, and in 1872 he was elected to the State Legislature. He was appointed, Feb. 27, 1875, Federal Judge of the Middle District of Alabama, and served continuously till his death.

Bryant, Montgomery, soldier, born in Fort Leavenworth, Kan., Dec. 28, 1831; died in Wichita, Kan., June 17, 1901. He was a son of Thomas S. Bryant, an assistant surgeon in the United States army, who accompanied the command that established the post at Fort Leavenworth, then in a wilderness. Montgomery Bryant entered the regular army in 1857, receiving his commission as a 2d lieutenant in the 6th Infantry, Feb. 21. He was appointed 1st lieutenant, May 3, 1861; captain, June 10, 1861; and Dec. 13, 1862, was brevetted major for gallant and meritorious services in the battle of Fredericksburg, Va. He received the regular appointment of major of the 14th Infantry, Oct. 7, 1874; and, June 22, 1882, he was made lieutenant-colonel of the 8th Infantry, and, Dec. 16, 1888, colonel of the 13th Infantry. Col. Bryant was in command of the 13th Infantry at Fort Sill, when, at his own request, he was retired, March 1, 1894.

Bryce, Joseph Smith, soldier, born in Georgetown, D. C., in 1808; died in New York city, April 16, 1901. He was graduated at West Point in 1829. Robert E. Lee was at the head of that class, Bryce standing third. He remained at West Point for some time after his graduation, and then resigned from the army and studied law. At the beginning of the civil war Mr. Bryce again entered the army, was commissioned major, and served on the staff of Gen. Wadsworth as adjutant-general. After a year he was transferred to the staff of Gen. Barnard, and while serving under him assisted in the preparation of the defenses of Washington. At the close of the war Major Bryce retired to private life, and after that spent much of his time in travel in the United States and abroad.

Bulloch, James Dunwoody, naval officer, died in Liverpool, England, Jan. 7, 1901, at the age of seventy-seven. He was a captain in the Confederate navy during the civil war, and at its close he went to England and settled at Liverpool, where he lived in retirement. He was the author of *The Secret Service of the Confederate States in Europe, or How the Confederate Cruisers were Equipped* (1883).

Bunce, Francis Marvin, naval officer, born in Hartford, Conn., Dec. 25, 1836; died there, Oct. 19, 1901. In 1851 he entered the naval service, and in 1852 was appointed to the Naval Academy. He was graduated in 1857, and on June 10 was commissioned midshipman and attached to the gunboat *Germantown*, of the East India squadron, June 25, 1860, he was made passed midshipman and assigned to the corvette *Brooklyn*, of the Gulf squadron, then engaged in survey work. He was commissioned lieutenant, April 11, 1861, and in 1862 was appointed executive officer of the

Penobscot. While he was executive officer of the ship it took part in an engagement with the Confederate forces at Yorktown, Va., where he had charge of the debarkation of the heavy artillery for the batteries in the investment of Yorktown. He commanded a successful expedition up Little river, between North and South Carolina, and destroyed several vessels, besides extensive salt-works and large quantities of cotton, turpentine, and rosin, and for these achievements he was mentioned in special orders and commended by the Navy Department. Later the *Penobscot* captured the *Robert Bruce*. He took the vessel to New York in November, 1862, and was then ordered to the South blockading squadron, and took part in the operations on Stono river, South Carolina. Jan. 15, 1863, he was commissioned lieutenant-commander, and on July 10 of the same year he commanded the naval maneuvers in the combined assault of the land and sea forces that resulted in the capture of Morris island. He was again highly commended for these services. He was then attached to the monitor *Patapsco*, and took part in all the actions in the siege of Charleston and in the night attack upon Fort Sumter. For his part in these engagements he received honorable mention. In November, 1863, while in action with the *Patapsco*, he was wounded by the premature explosion of a cartridge. He recovered rapidly, and in January, 1865, he was attached to the staff of Admiral Dahlgren before Charleston, where he was in charge of the scouting and picket boats. He served in this capacity till April 6, when he received command of the *Lehigh*. In September, 1865, he took command of the monitor *Monadnock*, and he was in charge of her when she made her famous trip between Philadelphia and San Francisco. This was the first extended sea voyage of a ship of this class, and Lieut.-Commander Bunce received the thanks of the Navy Department, and was recommended for reward by the Secretary of the Navy. He received his commission as commander on Nov. 7, 1871, as captain on Jan. 11, 1883, and as commodore on March 1, 1895. From 1866 to 1869 he was on duty at the Charlestown Navy-Yard. In 1869 he fitted out the monitor *Dictator* for sea service. In November of that year he assumed command of the *Nantasket*, and was stationed at Santo Domingo. On June 1, 1886, he received the command of the *Atlanta*, the first of the new cruisers. He remained in command of her until Dec. 1, 1889. On Feb. 12, 1890, Capt. Bunce was assigned to the naval station at New London. Later he commanded the new naval training squadron, the *Richmond* being his flagship. March 1, 1895, he was selected to command the North Atlantic squadron, with the rank of active rear-admiral. At the expiration of this service, May 1, 1897, he went to the Brooklyn Navy-Yard, where he supervised the conversion of many fast ships and yachts for use in the war with Spain. He was commissioned rear-admiral Feb. 6, 1898, and retired from active service Dec. 25, 1898. It is said that the policy of the Government in furnishing the navy with abundant ammunition for target practise and giving prizes for the best shots, which produced such remarkable results in the Spanish War, was due to the efforts of Admiral Bunce.

Bunting, Charles A., founder of the Christian Home for Intemperate Men, born in Edgartown, Marthas Vineyard, Mass., Jan. 2, 1828; died in Keyport, N. J., May 30, 1901. At an early age he ran away and went to sea before the mast. Afterward he was for many years a hotel-keeper. During all this time he drank heavily. In 1876 he was

converted under the preaching of Dwight L. Moody, and he at once became interested in the condition of men who were slaves to intemperance. With some outside help he succeeded, in 1877, in establishing in a private house a home where such unfortunates would find a welcome and be treated to every essential bodily comfort, on the condition of reforming their habits. So great was his success that in 1879 \$100,000 was raised—William H. Vanderbilt, Frederick H. Cossitt, Thomas Hope, Hector C. Havemeyer, and others contributing liberally—and the Christian Home for Intemperate Men at Eighty-sixth Street and Madison Ave., New York city, was built. Mr. Bunting remained its resident manager and director till the spring of 1899, when he was retired on a pension, and was succeeded in his work by the Rev. George S. Avery. He afterward resided in Keyport, N. J. Mr. Bunting, who was a constant student of the Bible, advocated a "Gospel method" of treatment, and no cure of any description ever was used in the home. He believed that intemperance was a sin, and that the treatment for it should be the same as for any other sin. He also condemned the use of tobacco, holding that every accessory of the habit should be abandoned, saying that his experience had proved that a rescued man that returns to it will also soon return to drink.

Burgess, Alexander, clergyman, born in Providence, R. I., Oct. 31, 1819; died in Saint Albans, Vt., Oct. 8, 1901. He was a son of Thomas Burgess, a Rhode Island judge, and a younger brother of George Burgess, the first Bishop of Maine. After graduation at Brown University he studied at the General Theological Seminary in New York city, and was ordained deacon in 1842 and priest in 1843. He was successively rector at East Haddam, Conn., 1842-'43; St. Mark's, Augusta, Me., 1843-'54; St. Luke's, Portland, Me., 1854-'67; St. John's, Brooklyn, N. Y., 1867-'69; and Christ Church, Springfield, Mass., 1869-'78. He was consecrated the first bishop of the recently formed diocese of Quincy, in Illinois, in 1878. He was the author of a popular religious text-book, *Questions for Bible-Classes and Sunday-Schools* (1855), and a *Memoir of the Life of George Burgess, First Bishop of Maine* (1869).

Burleson, Rufus C., clergyman and educator, born near Decatur, Ala., Aug. 7, 1823; died in Waco, Texas, May 13, 1901. He was a Baptist, and was elected president of Baylor University, Independence, Texas, in 1853, and served in that capacity till 1861, when he removed to Waco, and established a coeducational school known as Waco University. Waco and Baylor were consolidated into Baylor University in 1885, and Dr. Burleson was made its president and continued in office till 1897.

Burnham, Sarah Maria, educator, born in Chester, Vt., in 1818; died in Cambridge, Mass., Aug. 24, 1901. From 1843 to 1879 she taught in the public schools of Cambridge. She published *Roman Stories in the Time of Claudius*; *The History and Uses of Limestones and Marbles* (1883); *Precious Stones in History and Literature* (1886); *Struggles of the Nations* (1891); *Pleasant Memories of Foreign Travel* (1896); and *Biographical Sketches of Some Ancient People* (1899).

Burr, Franklin Lewis, journalist, born in Hartford, Conn., Dec. 9, 1827; died there, Feb. 2, 1901. He learned the printer's trade, and worked in the office of the *Hartford Times*. From 1854 to 1856 he held a place in the Navy Department in Washington, and after the latter date resided in Hartford. He became an editorial assistant in the *Times* office, and soon afterward, in partner-

ship with his brother, the late John E. Burr, became its owner. He retained the ownership of the paper till 1888, when he sold his interest to his brother, himself remaining a contributor to it. His single public office was one term as state commissioner of Hartford, 1889 to 1891. He was an ardent lover of nature, and wrote many beautiful essays on botany and ornithology, and appreciations of natural scenery.

Burroughs, George Stockton, clergyman and educator, born in Waterloo, N. Y., Jan. 6, 1830; died in Clifton Springs, N. Y., Oct. 22, 1901. He was graduated at Princeton, in 1873, and at Princeton Theological Seminary in 1877. He received the degree of Ph. D. in 1884, and that of D. D. in 1887 from Princeton, and from Marietta College in 1895 the degree of LL. D. He served successively as pastor of the First Church of Christ, Fairfield, Conn., First Church of Christ, New Britain, Conn., and the First Church of Christ in Amherst College. In 1886 he was made Professor of Biblical Literature in Amherst; he served till 1892, when he became president of Wabash College, Crawfordsville, Ind. He retired from that office in 1899 to accept the chair of Old Testament Language and Literature in Oberlin Theological Seminary.

Busiel, Charles Albert, ex-Governor of New Hampshire, born in Meredith, N. H., Nov. 24, 1842; died in Laconia, N. H., Aug. 29, 1901. He was educated at Guilford Academy, and engaged in manufacturing. At his death he was president of the Laconia National Bank and of the City Savings-Bank, and was a director of the Concord and Montreal Railway. He was formerly a Democrat in politics, but in later years he connected himself with the Republican party. From 1872 to 1885 he was chief engineer of the Laconia fire department. He served in the Legislature in 1878-'79, and was a delegate to the Democratic National Convention in 1880. He was the first mayor of Laconia in 1893-'94, and Governor of New Hampshire in 1895-'96. He was a candidate for the United States Senate in 1896, but was defeated.

Butterfield, Daniel, soldier, born in Oneida County, New York, Oct. 31, 1831; died in Cold Spring, N. Y., July 17, 1901. His father, John Butterfield, was one of the first to embark in the express business in the United States, organized the American Express Company, and was its president till his death, in 1869, built the telegraph-line between New York city and Buffalo, and was president of the Overland Express Company, which carried the triweekly mails between San Francisco and Missouri river. Daniel Butterfield was graduated at Union College in 1849, and removed to New York city as general superintendent of his father's express company. At the reorganization of the 12th Regiment of Militia, in 1859, he was chosen as its colonel. On April 12, 1861, the regiment started for Washington, and in July joined the Army of the Potomac, in which its colonel received the command of a brigade. When the army was enlarged he was commissioned a lieutenant-colonel, and assigned to the 12th Regiment of Infantry. In September, 1861, he was appointed brigadier-general of volunteers, and ordered to the corps of Fitz-John Porter. In this capacity he made the campaign of the Peninsula. He was wounded at the battle of Gaines's Mill. His next campaigns were fought under Gens. Pope and McClellan, in August and September, 1862, and at the close of October he took command of Morell's division. He became major-general of volunteers Nov. 29, 1862, and was made colonel of the 5th Infantry in the regular army

July 1, 1863. He commanded the 5th Corps at the battle of Fredericksburg, and was chief of staff in the Army of the Potomac at Chancellorsville and Gettysburg. He was wounded at Gettysburg. He joined the Army of the Cumberland in October, 1863, and acted as chief of staff to Hooker at the battle of Lookout mountain. On the march to Atlanta he commanded a division of the 20th Corps. He was brevetted brigadier and major-general, United States army, for meritorious services. Congress voted a medal of honor to him for conspicuous gallantry at the battle of Gaines's Mill. After the war Gen. Butterfield served as superintendent of the general recruiting service of the army, with headquarters in New York. He was also in command of the forces in New York harbor. In 1869 he resigned from the army to become Assistant Treasurer of the United States, in charge of the Sub-Treasury in New York city. Upon retiring from public office he devoted his attention to business enterprises. He took an active interest in politics and was an earnest adherent of the Republican party. He was a candidate for Congress in New York city in 1892. In 1900 he drew up a bill for submission to Congress for the organization of the United States Reserves. He was appointed by Gov. Roosevelt to attend a conference called by the Governor of Florida to consider plans whereby troops could be raised more speedily in time of war. Gen. Butterfield's scheme called for the uniform organization and instruction of the militia of the country. At the dedication of the National Park at Gettysburg he was marshal of the 10,000 veterans who took part in the ceremonies. He was one of the organizers and the grand marshal of the centennial parade in 1889. He also had military command of the funeral of Gen. William T. Sherman. He was the author of a Treatise on Camp and Outpost Duty. He established a course of lectures in Union College.

Cannon, George Q., Mormon apostle, born in Liverpool, England, Jan. 11, 1827; died in Monterey, Cal., April 12, 1901. His parents were relatives of Apostle Taylor, of the Mormon Church, and the child was reared in that faith. His early boyhood was spent in the Isle of Man, and when twelve years old he was taken by his parents to Canada. Three years later they removed to Nauvoo, Ill., where young Cannon learned to be a compositor, and became one of the most trusted lieutenants of Brigham Young. In 1847 he followed Young to Salt Lake City. Two years later he was sent on a mission tour to California, and thence to the Hawaiian Islands, where he translated the Book of Mormon into the native language. He returned to Salt Lake City in 1854, and in the following year was sent to San Francisco to publish a Mormon paper, *The Western Standard*, and on the breaking out of the Mormon war in 1857 he hurried back to assist in the defense of Zion. In 1860 he was ordained an apostle, and was sent to preside over the Mormons in Europe. He was also in charge of the emigration, and during his short mission sent 13,000 persons to Utah. On his return he became Brigham Young's private secretary, and edited *The Deseret News*. At this time he married two wives in addition to the two he already had. In 1862, when Utah sought admission as a State, Mr. Cannon and W. H. Hooper conveyed the petition to Washington. From 1865 to 1873 he was a member of the Legislative Council of the Territory, and in 1872 again appeared in Washington to urge the admission of Utah. Failing in this, he was elected Territorial Delegate in August, 1872, by an almost unanimous vote, and he con-

tinued to represent Utah in Congress till 1881, when he was forced to retire. During this time, and for many years afterward, he was the target for all the attacks upon Mormonism. But he remained steadfast to his faith, and when compelled to retire, he did so with a reiteration of his belief in the divinity of the polygamous faith. After the death of Brigham Young Mr. Cannon became one of his executors, and when John Taylor was elected president of the Mormon Church, in 1880, Cannon was made first counselor; and from that time he was the ruling spirit of the organization in the defiance of the laws of Congress. During the critical period from 1882 to 1890 Mr. Cannon spent many months in exile to avoid arrest. In 1886 he was taken into custody, and was released on \$45,000 bail, which he forfeited rather than face the judge. After the admission of Utah as a State he and his son, Frank Jenne Cannon, who was United States Senator from Utah from 1896 to 1899, exerted a powerful political influence. Mr. Cannon was ostensibly a Republican in politics, though in many instances he allied himself with the Democrats. When in 1899 he became a candidate for the United States Senate, the Republican Governor of Utah would not appoint him, on account of the doubtfulness of his party loyalty. Lorenzo Snow, when succeeding to the presidency of the Mormon Church as the oldest of its apostles, retained Mr. Cannon in the first presidency of the Church as one of his counselors. Cannon was one of the principal factors, when Mormonism saw the fallacy of its struggle against the civil laws of the country, in separating it from the state and making it a religion pure and simple. In addition to his duties as a priest and a politician, Mr. Cannon was a miner, a merchant, a real-estate owner, a banker, a railroad proprietor, a manufacturer, a farmer, a publisher, an editor, a cattle-raiser, and a business promoter. The estimates of his income from his various interests were as various as they were enormous.

Carleton, George Washington, publisher, born in New York city, Jan. 16, 1832; died in Saratoga, N. Y., Oct. 11, 1901. He was educated at St. Thomas Hall, Flushing, N. Y., and began his business career as a clerk in the importing and commission house of Burnham, Plumb & Co., in New York city. While employed here he utilized his leisure moments in designing illustrations for the comic papers: *The Lantern*, edited by John Brougham, the actor; *The Picayune*, edited by Charles E. Wilbour; and *Young America*, edited by T. W. Strong. In this amateur work he showed talent for humorous sketching with pen and ink, and from it he received an encouraging income. Some of his designs attracted the attention of George Merriam, who asked him to design for his firm an appropriate illustration for a heading to an advertisement of Webster's Dictionary. The sketch accepted, and used for nearly half a century by its purchaser, was of two small cupids overweighted with a very large book, and Mr. Carleton's remuneration for it was a copy of the dictionary bound in calf. In 1857 Mr. Carleton opened a book-shop at 413 Broadway, corner of Lispenard Street, with Edward P. Rudd and his father, the Rev. George R. Rudd, as partners, under the firm name of Rudd & Carleton. Among the first publications of the new firm was William Allen Butler's poem, *Nothing to Wear*, which, though published in a year of panic and failure, at once attained immense popularity. Mr. Carleton began to design the illustrations for this poem, but finally put the work into the hands of his friend, Augustus Hoppin, who made the drawings on wood. The curious

bird-like symbol that was used on all the advertisements and books as the trade-mark of the firm first appeared on Thomas Bailey Aldrich's little poem, *The Course of True Love Never did Run Smooth*, published in the early days of the firm's existence. The story of its origin is told as follows: "Mr. Carleton, who had acquired some knowledge of Arabic, in turning over a volume, looking with Mr. Aldrich for illustrations to his book, found this device, which is an Arabic word signifying 'books.'" Readers puzzled over its meaning, to Mr. Carleton's great amusement. His establishment was the rallying-place of the American comic writers, and he published many of their books. Artemus Ward—His Book, reached a sale of 40,000 copies, and encouraged Mr. Carleton to follow with an almost equal success in the *Life and Adventures of Josh Billings*. This was followed by Billings's *Farmer's Almanac*; the sale began slowly, but within a year this popular burlesque of the familiar *Farmer's Almanac* had reached a sale of 130,000 copies, at great profit to both author and publisher. Mr. Carleton published three humorous books, of his own authorship: *Our Artist in Cuba*, *Our Artist in Peru*, and *Our Artist in Spain and Algiers*, which consisted chiefly of his pictures with brief legends or bits of descriptive text. Among the many native authors introduced to the public through this house were Edmund Clarence Stedman, whose *The Diamond Wedding* was first brought out in book form by Mr. Carleton; Mary J. Holmes, Marion Harland, Miriam C. Harris (author of *Rutledge*), May Agnes Fleming, Richard B. Kimball, and Edmund Kirke. Mr. Carleton early turned his attention to the publication in English of popular French books. He made a most successful venture in bringing out a translation of Michelet's *L'Amour et La Femme*. The second work was translated and delivered to the compositors in seventy-two hours, the translator, Dr. John W. Palmer, having agreed to forfeit ten dollars an hour for every hour beyond that time that the work was kept from the printer. Within thirty days 20,000 copies were sold. The next great enterprise was the translation of the *Les Misérables* of Victor Hugo, translated by Charles E. Wilbour. The volumes were published with rapidity, and although the country was in the midst of civil war the book was a great success. Mr. Carleton then planned to publish the complete works of Balzac, at that time the idol of French novel-readers. The translations were well written by Frank B. Goodrich, but for some unknown reason the American public would not read Balzac, and at the end of the fourth volume the publishers abandoned the project. Edward P. Rudd died in 1861, and the elder Rudd having previously retired, Mr. Carleton continued the business alone until 1871, when he admitted his head clerk, the late George W. Dillingham, into partnership. In 1886 Mr. Carleton retired from business, and the firm was reorganized as the G. W. Dillingham Company. After his retirement from active business Mr. Carleton spent most of his time in traveling.

Cavanagh, James, soldier, born in the County Tipperary, Ireland, about 1830; died in New York city, Jan. 7, 1901. He came to America when sixteen years old, learned the carpenter's trade, and for many years had a shop in Thomas Street, New York. He enlisted in the 69th Regiment, New York National Guard, in 1852, and on March 9, 1857, became 1st lieutenant of his company. He was chosen captain of Company C, Jan. 13, 1859, and marched at its head down Broadway on April 23, 1861, when the regiment went to the civil war. He was highly commended for leading

a gallant charge at the first battle of Bull Run. When the Irish Brigade was organized Captain Cavanagh was promoted major of the 69th Irish Volunteer, and was afterward known as the "Fighting Little Major." He led the 69th Irish Brigade all through the campaign at Yorktown to Antietam. With Col. Meagher he led the noted charge of the Irish Brigade at the battle of Fredericksburg, and fell shot through the body within a hundred feet of the enemy's works. Gen. Meagher said in his report that: "There never was a brighter intellect, a stouter arm, or a braver heart." Major Cavanagh was discharged in May, 1863, on account of disability resulting from his wounds. In the same year he became lieutenant-colonel of the 69th Regiment, and on Nov. 29, 1867, succeeded Martin T. McMahon as colonel. He retained command of the regiment till 1893, when he resigned on account of illness. In recognition of his long and distinguished military career, he was appointed brevet brigadier-general of the National Guard, Nov. 29, 1892. He was appointed special customs inspector of the port of New York by President Arthur, and retained the place till his death. In 1875 he was a candidate for the State Senate on the Republican ticket, but was defeated.

Chamberlain, Nathan Henry, clergyman, born at Monument Beach, Sandwich (now Bourne), Mass., Dec. 25, 1830; died there, April 1, 1901. He was graduated at Harvard in 1853, and studied theology at Harvard Divinity School and the University of Heidelberg. Entering the Unitarian ministry, he was pastor at Canton, Mass., in 1857-'59, and at Baltimore, Md., where he succeeded the Rev. Jared Sparks, in 1860-'63. His theological views underwent a change, and he took orders in the Episcopal Church and was rector in turn of St. Paul's Church, Birmingham, Conn., 1864-'67; Trinity Church, Morrisania, N. Y., 1868-'71; St. James's, Milwaukee, Wis., 1871-'73; Emmanuel, Somerville, Mass., 1874-'79; St. John's, East Boston, Mass., 1882-'89. Retiring from the ministry in the year last named, he devoted his time mainly to literary pursuits. His published works include *The Autobiography of a New England Parish* (1864); *The Sphinx in Aubrey Parish* (1889); *What is the Matter with Our Tariff and its Taxes?* (1890); *Samuel Sewall and the World he Lived In* (1897); *Life of Sir Charles Napier*; and *An Itinerary of Cape Cod*.

Channing, William Ellery, poet, born in Boston, Mass., Nov. 29, 1818; died in Concord, Mass., Dec. 23, 1901. He was the son of Walter Channing, a physician of Boston, and was named for his uncle, the Unitarian theologian. He was educated at the Boston Latin School and Harvard University, and after a year or two of experience in the Western States he married a sister of Margaret Fuller, and settled in Concord, where he passed the greater portion of his life, although he was editorially connected with the *New York Tribune*, 1844-'46, and with the *New Bedford Mercury*, 1855-'56. As one of the contributors to *The Dial*, Channing was identified with the Transcendental movement, and he was the friend and neighbor of Emerson and Thoreau. He published *Poems, First Series* (1843); *Youth of the Poet and Painter*, a series of psychological essays contributed to *The Dial* in 1844; *Poems, Second Series* (1847); *Conversations in Rome between an Artist, a Catholic, and a Critic* (1847); *The Woodman*, and *Other Poems* (1849); *Near Home* (1858); *The Wanderer: A Colloquial Poem* (1871); *Thoreau, the Poet Naturalist*, with *Memorial Verses* (1873); *Eliot: A Poem* (1885); and *John Brown and the Heroes of Harpers Ferry*

(1886). He will probably be longest remembered by the lines, from A Poet's Hope—

Hope hath happy place with me;
If my bark sink, 'tis to another sea.

At his best Channing is stimulating and suggestive, but his verse suffers much from wilful disregard of the requirements of his art.

Channing, William Francis, scientist, born in Boston, Mass., Feb. 22, 1820; died there, March 20, 1901. He was a son of the elder William Ellery Channing. He was graduated at Harvard in 1839, and took a course in medicine at the University of Pennsylvania, receiving his diploma in 1844, but never practising his profession. Even while pursuing these studies he was engaged in 1841 and 1842 on the first geological survey of New Hampshire, and for the two years following was associated with Dr. Henry I. Bowditch in the editorship of the *Latimer Journal* in Boston. With Prof. Moses G. Farmer Dr. Channing worked for the ten years following 1841 in developing the fire-alarm telegraph, and the apparatus, patented in 1857, is still in general use. Nine years later he patented a railroad for transporting ships overland, and in 1877 invented the hand telephone-receiver, which was subsequently purchased by the Bell Telephone Company. He also invented many appliances for use in medical electricity. He was a frequent contributor to scientific journals on electrical subjects and wrote the first books on electricity as applied to medicine. During the abolition movement Dr. Channing was a leader among the agitators.

Chenery, Leonard, naval officer, born in Northampton, Mass., in 1846; died in New York city, March 10, 1901. He was graduated at the Naval Academy in 1865. He was attached to the *Swatara* till 1867, part of the time in the West Indies and part of the time on European stations. From 1867 till 1869 he was attached to the *Guerrière*, the flagship of Rear-Admiral Charles H. Davis, on the Brazilian station. He was flag-lieutenant of the Pacific station on Commodore Stembel's staff from 1871 till 1872, and he was attached to the *Saranac* from 1872 till 1874 on Pacific stations. From 1875 till 1877 he was attached to the monitor *Catskill*, on the North Atlantic station, and from 1879 till 1881 he was stationed at Mare Island Navy-Yard. He was commissioned lieutenant-commander in 1879. He retired from active service Dec. 20, 1881. In the Spanish-American War he volunteered his services, and acted as recruiting officer for the navy in the New York district.

Cheney, Albert Nelson, fish-culturist, born in Glens Falls, N. Y., May 3, 1849; died there, Aug. 17, 1901. He was educated at Glens Falls Academy, Sedgwick School, Mass., and Abbott School, Mass. He was commissioned captain in the 31st New York Volunteers while still under age. In 1870 he began the study of pisciculture, and at his death he was recognized as one of the highest authorities in the subject. He was for nine years a regular contributor to *Forest and Stream*, and he was fishery editor of *Shooting and Fishing*, conducted the *Angling Notes* in the *American Angler*, and was a contributor to the *London Fishing Gazette* and to other periodicals. He was commissioned by the United States Fish Commission to select waters and streams for stocking, and in 1895 he was appointed State Fish Culturist of New York, serving till his death.

Cheney, Person C., ex-Governor of New Hampshire, born in Holderness, N. H., Feb. 25, 1828; died in Dover, N. H., June 19, 1901. At the age of seventeen he took charge of his father's paper-

mill, and in eight years built a larger one. He represented Peterboro in the Legislature in 1853; he was quartermaster of the 13th New Hampshire Regiment from 1862 until 1863, and railroad commissioner from 1864 to 1867, after which time he resided in Manchester. In 1871 he was elected mayor of that city. In 1875 and 1876 he was elected Governor of the State. In January, 1887, he was appointed United States Senator to fill a vacancy. In December, 1892, he was appointed minister to Switzerland, where he served till June, 1893.

Chisnell, Newton Clarence, actor, born in Greensburg, Ohio, in 1857; died in Akron, Ohio, April 10, 1901. His first engagement was with Edwin Booth, although he had appeared previously in amateur performances. He afterward appeared successively with Mary Anderson, Salvini, and the French actress Aimée. He was for several years a leading comedian in Hoyt's farces, acting rôles in *A Trip to Chinatown*, *A Texas Steer*, and *A Temperance Town*. He also acted with Frank Mayo in *Puddin'head Wilson*. His last appearance was with *Way Down East* at the New York Academy of Music, in 1900.

Clarke, Thomas Curtis, engineer, born in Newton, Mass., Sept. 16, 1827; died in New York city, June 15, 1901. He was a younger brother of the late Rev. James Freeman Clarke. He was graduated at Harvard in 1848, studied engineering, and devoted himself to railroad building. He later made bridge engineering his specialty, and designed and constructed some of the most remarkable bridges and viaducts in the country. One of his earliest works was the Chicago, Burlington, and Quincy bridge that spans the Mississippi at Quincy, Ill. This bridge Mr. Clarke built without the intervention of contractors (except for the ironwork). He designed the plant and all the machinery, and, in spite of a season of unusually high water, he opened the bridge for traffic in fifteen months after beginning its construction. Mr. Clarke was the senior partner in the firm of Clarke, Reeves & Co., of Phoenixville, Pa., which afterward became the Phoenix Bridge Company. The work of this company comprised not only many of the most important bridges that have been built, but a considerable part of the elevated railroads of New York. One of the famous works in which he was specially interested while at Phoenixville was the Kinzau Viaduct. In 1884 Mr. Clarke became one of the original members of the Union Bridge Company, which built in Australia the famous Hawkesbury Bridge, considered one of the most brilliant achievements of American engineers in foreign lands, and the bridge across the Hudson at Poughkeepsie, the foundations of which are 135 feet below the water. Of this Mr. Clarke had especial charge. He was president of the American Society of Civil Engineers in 1896, and was Telford gold medalist of the Institute of Civil Engineers of London, England. He wrote many monographs on problems of engineering.

Coles, C. C., inventor and weather-prophet, born in Colesville, N. Y., in 1850; died in Kingston, Pa., Feb. 16, 1901. He was educated at Mount Retirement Seminary. Early in life he studied music, and his method of teaching music by mail in ten lessons first brought him before the public. He was much interested in astronomy, and said he had invented an "electric eye," by which, with some sort of combined telescope and electrical eyepiece, he was able to magnify many hundred times more than the best microscope, and to bring the heavenly bodies much nearer than with the ordinary telescope. He was best known as the publisher of *Storms and Sig-*

nals, a little monthly paper in which he predicted weather conditions in all parts of the world, disasters on land and sea, the sweep of plagues, and the annihilation of nations. He also gave advice as to the best time to grow turnips and other farm produce, and the best time of the month to fish, and illustrated the "high or low tide of the vital forces" by a chart for each day of the month. This paper had a large sale among farmers. He also did a considerable business in the casting of horoscopes.

Cook, Joseph, author and lecturer, born in Ticonderoga, N. Y., Jan. 26, 1838; died there, June 24, 1901. He was the son of a farmer, and was graduated at Phillips Academy in 1857, and in 1858 he entered Yale; but as his health became impaired he was forced to leave college early in 1861. In 1863 he entered the junior class at Harvard, where he was graduated with honors in 1865, and three years later was graduated at Andover Theological Seminary, remaining one year longer there to study advanced religious and philosophical thought. He preached in Andover during 1868-'70, and was acting pastor in Lynn, Mass., in 1870-'71. In 1871 he went to Europe and studied at Halle, Leipsic, Berlin, and Heidelberg, and afterward traveled in Italy, Egypt, Greece, Turkey, and northern Africa. He returned to the United States near the end of 1873, taking up his residence in Boston. His name became familiar to the public in 1875, when as pastor of a Congregational church in Boston he was invited by the Young Men's Christian Association of that city to speak at their Monday noonday meeting. His audiences grew larger, and the lectures finally taxed the full capacity of Tremont Temple. The lectures were given under the auspices of the Young Men's Christian Association till May, 1876, when the Boston Monday lectureship was founded, and the management placed in the hands of a committee representing several evangelical denominations. The object of these lectures was to present the results of the freshest scholarship on the more important and difficult topics concerning the alleged conflict of religion and science. The lectures were every week printed at full length in the newspapers and were read by 250,000 persons in the United States and Canada, besides those in Europe. In 1876 Mr. Cook's lectures and "preludes" first appeared in book form, and in two years they ran through more than 30 editions. In 1878 he delivered 150 lectures, 30 of which were new. During the season of 1878-'79, in addition to the Boston Monday lectureship, he conducted a New York Thursday afternoon lectureship, and spoke on many outside occasions, choosing for these outside lectures the following subjects: Does Death End All? Seven Modern Wonders; Ultimate America; Certainties in Religion; England and America as Competitors and Allies; Political Signs of the Times; Alcohol and the Human Brain; Law and Labor, Property and Poverty; God in Natural Law; Religious Signs of the Times; What saves Men, and Why? and A Night on the Acropolis. In 1880 he began a lecturing tour around the world, on which he was received everywhere by immense audiences. He made 135 public appearances in Great Britain, passed several months in Germany and Italy, and went to India by way of Greece, Palestine, and Egypt. From India his tour extended to China, Japan, Australia, New Zealand, and Hawaii. In Japan he gave 12 lectures—6 in English and 6 through an interpreter—to audiences composed chiefly of Japanese students, teachers, and public men. He returned to the United States in 1882. He made a lecturing tour in Australia in 1895,

and in 1900 resumed the Boston Monday lectures. In 1888 he founded *Our Day*, a monthly paper and review. He published *Boston and the World* (11 vols., 1876-1888); *Congregational Perils*; *Professor Park and his Pupils*; *Memorial pamphlet*, 1899; *The High Court of Arbitration* (1900); and *New Defense of Lord's Day* (1900).

Coston, William Franklin, signal-man, born in Washington, D. C., May 20, 1845; died in New Brighton, Staten Island, N. Y., Aug. 17, 1901. He was graduated at Georgetown College, Washington, D. C., in 1866, and afterward studied abroad. He traveled extensively, and was in France and Germany during the Franco-Prussian War. He was the son of Benjamin Franklin Coston, who invented the signals bearing his name (see *Annual Cyclopædia* for 1897, page 790), and improved and perfected his father's invention. He furnished all the signals used by the United States Government and many other governments.

Cox, Charles Hudson, artist, born in Liverpool, England, Jan. 28, 1829; died in Boulder, Colo., Aug. 7, 1901. He received his education at Kendal Grammar School, Westmoreland, and at Liverpool Institute; and from 1842 to 1888 he was a cotton-broker in Liverpool. In the latter year he moved to the United States, making his home in Waco, Texas, where he continued in the cotton export business till his death. He was said to have been the oldest cotton man, in point of continuous service, in the world. Mr. Cox began his artistic career in Liverpool, where from 1870 till his departure in 1888 he was known as its best amateur water-color artist. He was widely known as a landscape artist in America, and as a member of the Waco Art League won many medals and premiums for water-colors at Waco, Dallas, Houston, and San Antonio. His picture *The Golden Hour* won a premium at the Columbian Exposition in 1893. He was teacher of outdoor sketching at the Texas-Colorado Chautauqua, Boulder, Colo., during the summers from 1898 to 1901. He was Texas correspondent of the *London Daily and Weekly Graphic* from 1890 to 1901. His chief works are marines and views of the River Mersey, and Texas prairie and wild-flower, and Colorado mountain scenery. Among the best are *A Texas Prairie*, *A Thousand Miles from Home*, and *The Golden Hour*—all exhibited at the World's Fair, Chicago, 1893; *The Highest Pine* (Colorado); *Williams Cañon*, Colorado; *A Great Rock in a Weary Land* (Colorado); *The Garden of the Lord* (Colorado); *View from Mount Arapahoe* (Colorado); *Buffalo Clover* (Texas); *An Unwritten Story of the Plains* (Colorado); and a series of paintings illustrating Longfellow's *Evangeline*, presented to the Waco High School.

Crane, Niram Merriam, banker and soldier, born in Penn Yan, N. Y., Dec. 13, 1828; died in Wayne, N. Y., Sept. 25, 1901. He was a private banker in Hornellsville, N. Y., at the outbreak of the civil war, and in April, 1861, he closed his bank to raise a company for the 23d New York Volunteers. He participated in the battles of Rappahannock, Groveton, Chantilly, South Mountain, Antietam, and Fredericksburg, and served on the staffs of Gen. Reynolds and Hooker. He was chosen colonel of the 107th New York Regiment and joined it at Leesburg, Va., while it was on its march to Gettysburg. He displayed great gallantry in the battle of Gettysburg, and afterward under Gen. Hooker joined Gen. Sherman at Chattanooga and participated in the march to the sea. He was brevetted, March 13, 1865, brigadier-general of volunteers for gallantry during the campaign in South Carolina. At the close

of the war he resumed his banking business in Hornellsville and conducted it till 1893. He was an original trustee of the Soldiers' Home in Bath, N. Y., and was its first treasurer.

Crocker, Margaret Eleanor, philanthropist, born in Stark County, Ohio, Feb. 25, 1823; died in New York city, Dec. 1, 1901. She was the daughter of John Rhodes, a pioneer of Stark County, and the youngest of twelve children. While Margaret Rhodes was a babe, the father died, leaving the mother, with the aid of the older children, to wring a livelihood from the half-cleared land. The mother died in 1848, and the family was broken up. While visiting her sister in South Bend, Ind., in 1850, Margaret met Edwin B. Crocker, then a young lawyer, who had studied for his profession while working in a foundry. The couple were married by Henry Ward Beecher, July 8, 1852, and a few days afterward they set out by the long isthmus route for California. Here Mr. Crocker struggled through the deepest poverty and many privations to a high place in his profession, a justice of the Supreme Court of California, and became one of the wealthiest men in the country. Judge Crocker and his wife devoted much of their wealth to charities and to beautifying the city of Sacramento. After the death of her husband, in 1875, Mrs. Crocker increased her charities. She gave to Sacramento land for a cemetery, a great school building, and a magnificent art gallery, the contents of which, carefully collected in Europe, were valued at more than \$500,000. She also founded and endowed an old ladies' home in that city. During her later years she resided in New York city, and there gave liberally in public and private benefactions.

Croly, Jennie Cunningham, editor, born in Market Harborough, England, Dec. 19, 1829; died in New York city, Dec. 23, 1901. At the age of ten she removed to Poughkeepsie, N. Y., and in 1856 she married David G. Croly, a journalist, who died in 1889. She was one of the first women to enter the profession of journalism, and in a career of forty years was connected editorially with various newspapers and periodicals. Her longest service was as editor of *Demorest's Magazine* (1860-1887). She founded *Sorosis*, a woman's club, in 1868, and was its president in 1868-'70, and in 1876-'86. She also founded the *Women's Press Club* and was its first president, and in 1899 a publication entitled *The New Cycle*, and she was the first president of the *New York State Federation of Women's Clubs*. Her publications in book form include *Talks on Women's Topics* (1869); *For Better or Worse* (1875); a cookery book; and a *History of the Woman's Club Movement in America*. Much of her work was published under the pen-name of Jennie June.

Crowell, Floy (Mrs. Edwin Dudley), actress, born in Cleveland, Ohio; died in Los Angeles, Cal., Jan. 31, 1901. She made her first appearance in a small western stock company, and played, during a period of ten months, more than 30 leading rôles, ranging from Marjorie, in the *Rough Diamond*, to Lady Audley, in *Lady Audley's Secret*, and Lady Isabel, in *East Lynne*. Soon after the termination of this engagement she traveled through the New England States with her own company. She played chiefly in that territory during the rest of her stage career, appearing most successfully in *The Ironmaster*, *Queen of the Night*, and *The Wages of Sin*.

Curry, Robert, educator, born in Murraysburg, Pa., June 8, 1821; died in Allegheny, Pa., Dec. 13, 1901. He taught in the public schools before entering the academy at Frankfort Springs, Pa., and was graduated at Washington and Jef-

ferson College in 1848. He became principal of West Newton Academy, and of a school at Canonsburg, Pa.; in 1855 established the first normal school in western Pennsylvania, in Mansfield, and in 1859 became principal of New Brighton Female Seminary. In 1860 he founded, in Pittsburg, Curry University, with three departments—classical, normal, and chemical. In 1873 Prof. Curry was appointed Deputy Superintendent of Public Instruction of Pennsylvania, and after his term in that office he removed to the West, where he was engaged in active educational work till his retirement in 1900. During these last years he was for a time principal of the Nebraska State Normal School, and for several years he served as president of the State Teachers' Association of Nebraska. He received the degree of Ph. D. from Washington and Jefferson College in 1873.

Curtiss, James Edward, soldier, born in Mohawk, N. Y., Oct. 1, 1840; died in Buffalo, N. Y., July 23, 1901. He was educated in the common schools of his native country, and when the civil war broke out he became a captain in the 152d New York Volunteers. The following year he was made major, and soon afterward lieutenant-colonel. He received his commission as colonel, June 1, 1865. In the previous March he was brevetted brigadier-general for faithful and meritorious services during the war. He was police commissioner of Buffalo from Jan. 1, 1895, till March 1, 1899. He was connected with many business enterprises.

Cushing, Samuel T., soldier, born in Rhode Island in 1839; died in Washington, D. C., July 21, 1901. He was educated at West Point, and was commissioned 2d lieutenant in the 2d United States Infantry, Jan. 19, 1861; 1st lieutenant, May 14; and captain, Feb. 15, 1862. He was made commissary of subsistence, Feb. 9, 1863, and thereafter served in the commissary and signal branches of the service. He was the first regular officer detailed for duty with the signal corps of the army at the outbreak of the civil war, and at Fredericksburg, Va., established the first line of military telegraph ever used in actual warfare and exposed to the enemy's fire. He was brevetted major, March 13, 1865, for gallant and meritorious conduct in the field. He was commissioned major of the volunteer signal corps, May 29, 1863, but declined the commission. In the regular establishment he was major and commissary of subsistence, Aug. 28, 1888; lieutenant-colonel and assistant commissary-general, Nov. 11, 1895; colonel and assistant commissary-general, Jan. 26, 1897; and brigadier-general and commissary-general, Jan. 28, 1898. He was retired for disability, April 21, 1898.

Daggett, Mrs. Lydia (Hill), missionary, died in Wyoming, Oct. 2, 1901. At the time of the civil war she spent two years in the South, chiefly in New Orleans, where her work was personally furthered by Gen. Butler, laboring for the relief and education of the colored people. From 1871 to 1882 she was the publisher of the *Heathen Woman's Friend* (now the *Woman's Missionary Friend*), the organ of the *Woman's Foreign Missionary Society of the Methodist Episcopal Church*. She afterward engaged actively in the home missionary work of her Church until 1895. She was made district secretary, and founded the *Jesse Lee Home* in Alaska, to which she gave personal supervision. She also aided in establishing the *Lyndon Home* for Indians in Washington.

Davis, Kate, actress, born in Boston, Mass., in 1863; died in Washington, D. C., Jan. 12, 1901. She was a graduate of the Boston School of Oratory, and her first appearance was as a public reader, after which she began her career as an

actress in the company of Effie Ober, shortly afterward joining the Hanlons, playing the title rôle in *Fantasma*, in which she appeared for nearly two years. She possessed a fine soprano voice, and her theatrical work was divided between light opera and the drama, with much success in both. She sang one season with the famous Boston Ideal Opera Company; she played leading rôles one season in the company of Dan Maguinness, and she made a notable success as Violet Hughes in Hoyt's *A Tin Soldier*. In 1891-'92 she played the Spanish mother in Mrs. Leslie Carter's production of *Miss Helyett*, after which she became a member of the Manola-Mason Company of Boston, and of Donnelly and Girard's company, playing in *The Rainmakers*. She also appeared in England, and achieved success in that country.

Dean, Sidney, clergyman and Congressman, born in Glastonbury, Conn., Nov. 16, 1818; died in Brookline, Mass., Oct. 29, 1901. He was educated at Wilbraham Academy, Massachusetts, and Suffield Academy in his native State, and entered the Methodist ministry in 1843. In 1855-'59 he represented his district in Congress, and was Washington correspondent of the *New York Independent*. He held pastorates at Pawtucket, R. I., 1859-'61; Providence, 1861-'63; and Warren, R. I., 1863-'65. During the next ten years he was editorially connected with Providence newspapers, retiring from journalism in 1880 to devote himself to literature and lecturing. His last ten years were spent in retirement at Brookline. In 1884 he published *A History of Banking and Banks, from the Bank of Venice, 1171 to 1883*.

De Cordova, Raphael J., lecturer and humorist, born in Jamaica, West Indies, in 1822; died in London, England, April 4, 1901. He removed to New York city in 1849, and was employed in the commission house of Aymer & Co. till 1870. In that year, with his two sons as partners, he established a tea business in New York. The firm was dissolved in 1885, and after 1893 Mr. De Cordova resided in London. During the financial panic of 1857 he turned to the lecture platform, on which he had already achieved success. His subjects were humorous and the lectures very popular. He was a regular contributor to the New York newspapers, and wrote several books, one of which, *The Prince's Visit*, published shortly after the visit of the Prince of Wales to the United States, had a large sale. He was an expert linguist.

De Forest, Augusta, actress, born in White Plains, N. Y., in 1845; died in New York city, Oct. 20, 1901. She made her début in her early girlhood, played first in stock companies, and rose quickly to be leading lady. She played at various times in support of John McCullough, Adelaide Neilson, Edwin Booth, Lawrence Barrett, William J. Florence, and other stars. For several years she was leading woman at Wood's Museum, and at one time she was a member of Augustin Daly's company. In her last years she played in support of Margaret Mather, Belle Archer, and Grace George. She married George Hill, a New York merchant, who died soon afterward.

De Groot, Ann Boylan, philanthropist, born in Mendham, N. J., Feb. 28, 1813; died in Mount Tabor, N. J., July 10, 1901. She was a daughter of Joseph A. Boylan. Her husband, Alfred De Groot, died in 1869, leaving her a considerable fortune, which she devoted almost entirely to church and charitable work. She was the founder of the De Groot Methodist Episcopal Church, in Newark, N. J., and paid for its first edifice. She was a member of the charter Board of Trustees and Board of Managers of the Newark Home for

the Friendless, founded in 1874, and continued until her death. She was interested in the work among the negroes, both in the North and in the South, and founded and was the financial support of the Boylan Home for the Colored Children in Jacksonville, Fla. She was also a large contributor to the Central Baptist Church, in Newark, of which she was a member, and to the Mount Tabor camp-meetings, one of which she had attended since 1870.

De la Harpe, Joseph A., scenic artist, born in Switzerland, about 1850; died in Brooklyn, N. Y., Feb. 11, 1901. When a boy he emigrated with his mother, who settled with him near Salt Lake City. He made many sketches and paintings of animals for Brigham Young, some of which are in the museum of the Smithsonian Institution in Washington. His portraits of Brigham Young and other Mormon notables are in the Mormon Temple, in Salt Lake City. His first engagement in the East was in making sketches for Augustin Daly. He painted the scenery for Edwin Booth's theater. Altogether he painted the scenery for 47 theaters, 24 of which were in New York and Brooklyn.

Denison, Frederic, Baptist clergyman, born in Stonington, Conn., Sept. 28, 1819; died in Providence, R. I., Aug. 16, 1901. He was graduated at Brown University in 1847, and in the autumn of the same year he was ordained pastor of the First Baptist Church of Westerly, R. I. In November, 1854, he was made pastor of the Central Baptist Church, Norwich, Conn., where he remained until 1859, when he took charge of a church in Central Falls, R. I. In 1861 he became chaplain of the 1st Rhode Island Cavalry. Later he joined the 3d Rhode Island Heavy Artillery in the same capacity, and served through the war. In 1865 he resumed charge of the church in Westerly, where he remained till 1871. For the following two years he was pastor of a church in New Haven, Conn., and for the succeeding three years in Woonsocket, R. I. After that he was pastor for a few years of the Roger Williams Baptist Church in Wanskuck. He then retired, and afterward made his home in Providence. He wrote many historical sketches, army hymns, pamphlets upon current subjects, memorial discourses, and miscellaneous hymns, poems, and newspaper and magazine articles, and was the author of the following books: *The Supper Institution*; *The Sabbath Institution*; *Notes of the Baptists and their Principles in Norwich, Conn.*; *The Evangelists—Life of Jabez S. Swan*; *Westerly and its Witenesses*; *Sabers and Spurs—the History of the 1st Rhode Island Cavalry*; *Shot and Shell—the History of the 3d Rhode Island Heavy Artillery*; *Picturesque Rhode Island*; and *Illustrated New Bedford, Marthas Vineyard, and Nantucket*.

De Puy, William Harrison, clergyman, born in Penn Yan, N. Y., Oct. 31, 1821; died in Canaan, Conn., Sept. 4, 1901. He was graduated at Genesee College (now Syracuse University), entered the ministry of the Methodist Episcopal Church in 1845, and was engaged in pastoral work until 1849, when he became the financial agent of Genesee College. The following year he was made principal of the teachers' department of Genesee Wesleyan Seminary, and Professor of Mathematics and Natural Philosophy in the seminary. He was pastor of Grace Methodist Episcopal Church, in Buffalo, in 1855, and successively served the full pastoral term in each of the Methodist churches then in that city. During part of that time he was editor of the *Buffalo Christian Advocate*. In 1865 he was appointed assistant editor of the *Christian Advocate* of New York, and he filled

that office about twenty-five years. He was editor of the *Daily Christian Advocate* during the quadrennial General Conferences from 1860 to 1888, one of the managers of the Methodist Sunday-School Union for more than thirty years, and editor of the Methodist Year-Book from 1866 to 1889. In New York he served as pastor of the old John Street Methodist Episcopal Church four years. He received the degree of M. A. from Genesee College, that of D. D. from Union College, and that of LL. D. from Mount Union College, Alliance, Ohio. Dr. De Puy was author or editor of the following books: *Three-score Years and Beyond* (1877); *Compendium of Useful Information* (1878); *The People's Cyclopædia of Universal Knowledge* (1879); *Home and Health and Home Economics* (1880); *The People's Atlas* (1882); *Methodist Centennial Year-Book* (1889); *American Revisions and Additions to Encyclopædia Britannica* (1891); and *University of Literature* (1896).

Dickinson, Leonard A., soldier, born in New Haven, Conn., Nov. 5, 1826; died in Hartford, Conn., Jan. 27, 1901. He was left an orphan at an early age, and earned the greater part of his livelihood after he was nine years old. While a young man he was a member and an officer of various military companies in New Haven and Hartford, and in October, 1861, he enlisted in the 12th Connecticut Volunteers. He was commissioned captain in that regiment, mustered into service in January, 1862, and served with it in the engagements about New Orleans under Gen. Butler, and later in the Shenandoah valley. In 1864 he was made assistant acting adjutant-general of the 19th Army Corps, and in that capacity he was in the campaigns of Gen. Sheridan. He was mustered out of service Nov. 21, 1864. After 1869 he engaged in the insurance business, and for many years he was president of the Hartford Board of Underwriters. Throughout his life after the war he was intimately connected with the political life of the State. He served for three years as quartermaster on the staff of Gov. Jewell. He was appointed postmaster of Hartford by President Garfield, and held the office through President Arthur's administration. He had served continuously on the Soldiers' Hospital Board after 1886, and was a trustee and treasurer of the Fitch Soldiers' Home, in Noroton, Conn., and as the executive officer representing the State he was largely instrumental in putting the institution on a sound basis.

Dillingham, Annie (Mrs. William Dawes), actress, born in New England; died in Brooklyn, N. Y., March 15, 1901. She made her first appearance at the Boston Museum, playing the leading rôle in *The Love Chase*, supported by the veteran actor, William Warren. She afterward acted in various stock companies throughout the country, and once, during the civil war, when she and her company were in a town that had been captured by Morgan's guerrillas, the entire wardrobe and properties of the actors were saved by her intercession with Morgan himself. While Miss Dillingham was playing in the West Indies she met William Dawes, a merchant of British Guiana, and shortly afterward married him, retiring permanently from theatrical life.

Dimitry, John (Bull Smith), author, born in Washington, D. C., Dec. 27, 1835; died in New Orleans, Sept. 7, 1901. He was the son of Prof. Alexander Dimitry. He was graduated at Georgetown College, and from 1859 to 1861 was secretary of legation to his father, who was United States minister to Costa Rica and Nicaragua. He was connected editorially with newspapers in

New Orleans, Washington, New York, and Philadelphia, and while on the New York Mail and Express his story *Le Tombeau Blanc* won the prize of \$500 offered by The Storyteller for the best short story. He was Professor of Languages and Belles-Lettres, Colegio Córdas, South America, from 1873 to 1876, and he held the same chair in Montgomery College, Virginia, in 1894-'95. He gained considerable reputation as a writer of epitaphs, and was the author of *The Life of Jefferson Davis*, written, with John C. Ridpath, in collaboration with Mrs. Jefferson Davis; *School History and Geography of Louisiana* (1877); *Three Good Giants* (1887); *Atahualpa's Curtain* (1889); and the *Confederate Military History of Louisiana* (1900).

Donahoe, Patrick, publisher, born in Munery, County Cavan, Ireland, March 17, 1811; died in Boston, Mass., March 18, 1901. He attended the public schools of Boston, whither he had come with his parents when ten years old, and afterward worked as a compositor in the office of the *Columbian Centinel*, and later on the *Boston Transcript*. In 1836 he founded *The Pilot*, in the interest of the Catholics of the United States, which, through his personal canvass, attained a wide circulation. In addition to his newspaper he established a large book-publishing house, and subsequently added a bookstore and an emporium of organs and church furniture. During the civil war he actively interested himself in the organization of Irish regiments. He was treasurer of the fund for the equipment of the Irish 9th, and when the regiment was departing for the field he presented Col. Cass with \$1,000 in gold for distribution among the men. He assisted in the formation of the 28th Massachusetts Regiment, and generously aided the soldiers at Camp Cameron, Cambridge, during the early days of the war. In 1872, when his chapter of misfortune began, Mr. Donahoe was the richest Catholic in New England, and his large fortune was drawn on freely for churches and philanthropic interests. The great fire of 1872 destroyed his buildings, stereotype plates, book stock, and other property to the value of \$350,000. He at once resumed business, but was burned out again in May, 1873. He built again, and a third time was burned out. The insurance companies had nearly all collapsed through the losses incurred in the great fire, and in consequence his losses were almost total. In addition, he had indorsed heavily for friends, and through his generosity in this direction he lost more than \$250,000. Then the panic of 1876 came, and friends that had advanced money to carry on the business withdrew their assistance. His bank was obliged to suspend payment, and Mr. Donahoe, to repay the \$73,000 due depositors, put everything he possessed at the disposal of his creditors. *The Pilot* was purchased by Archbishop Williams and John Boyle O'Reilly. The latter, who for some years had been in editorial charge of the paper, now assumed the additional duties of business manager. Meantime; Mr. Donahoe was beginning business life anew. He resumed his foreign exchange and passenger agency, and in 1878 established *Donahoe's Magazine*. To gain a circulation for it, he went over the same ground that he had traversed in young manhood in the interests of *The Pilot*. Success came to him, and in 1890, after the death of John Boyle O'Reilly, Mr. Donahoe, then nearly eighty years old, bought back *The Pilot*. In 1894 he sold *Donahoe's Magazine*. On March 17, 1893, he was awarded the Lætare medal by Notre Dame University, given each year to some Catholic "especially distinguished for his services to

religion and to his fellow men," and on May 8, 1894, he was tendered a complimentary dinner by the representative citizens of Boston, at which more than 300 were present.

Donnelly, Ignatius, author, born in Philadelphia, Pa., Nov. 3, 1831; died in Minneapolis, Minn., Jan. 1, 1901. He was educated in the public schools of his native city, was graduated at the Central High School in 1849, and was admitted to the bar in 1852. He removed to St. Paul, Minn., in 1856, and in 1859 was elected Lieutenant-Governor of Minnesota on the Republican ticket. He served in Congress from December, 1863, till March, 1869. Then, having been defeated for another reelection, he entered the Democratic party. He took the stump for Horace Greeley in 1872, and was president of the anti-monopoly convention that nominated Peter Cooper for the presidency in 1876. In 1873 he was elected to the State Senate, and served many years as Democratic member of that body and of the House. Sept. 6, 1898, he was nominated for the vice-presidency of the United States by the convention of the People's party in Cincinnati, Ohio, and in May, 1900, he was nominated for the same office by the Middle-of-the-Road division of the People's party in their convention in Sioux Falls, S. Dak. For five years he published in St. Paul *The Antimonopolist*, a weekly paper in which he advocated the Greenback policy, and during his last years, in addition to conducting a large farm, he edited *The Representative*, a reform journal published in Minneapolis. For several years previous to 1894 he was president of the Farmers' Alliance of Minnesota. After publishing several minor works, among them an *Essay on the Sonnets of Shakespeare*, he brought out his *Atlantis, the Antediluvian World* (1882), in which he attempted to prove that a great island continent, the Atlantis of the ancients, once extended from the West Indies nearly to Europe; that civilization originated there and spread to both the adjacent continents; that the island sank in a great convulsion, and that the islands of the Atlantic are such parts of it as were too high to be submerged. Afterward he published *Ragnarok* (1883), an attempt to prove that the deposits of clay, gravel, and decomposed rock characteristic of the drift age, were the result of contact between the earth and a comet; and *The Great Cryptogram*, in which he attempted to demonstrate by an alleged cipher (which was quite clear to him, but to no one else) that Lord Bacon was the author of the plays attributed to Shakespeare. He afterward applied this cryptogram with equal success to *Don Quixote*. His other books were *Cæsar's Column: A Story of the Twentieth Century* (1890); *The Golden Bottle*, a political novel (1892); *Doctor Huguet*; and *The American People's Money*. He wrote the preamble to the Omaha platform of the People's party, which has been regarded in the light of a party creed. While in Congress, Mr. Donnelly earnestly advocated the creation of the National Bureau of Education, and he was the first man that ever agitated in Congress the question of the planting of trees by the Government.

Dougherty, Andrew, inventor and manufacturer, born in Ireland in 1826; died in New York city, March 4, 1901. He came to New York when nine years old, and soon afterward ran away to follow a seafaring life till 1848, when he returned and set up a small establishment for the manufacture of cards at 48 Ann Street. The business grew till it was one of the most important of its class in the United States. Most of the devices now used in the making of cards

were his inventions, and he was the originator of a paper-wetting appliance and of the rollers of the country used in preparing paper for the press up to the time of their use in the web perfecting press, which uses the rollers.

Douglass, Andrew Ellicott, geologist, born in West Point, N. Y., Nov. 18, 1818; died in New York city, Sept. 30, 1901. He was the son of Major David Bates Douglass, U. S. Army, and graduated at Kenyon College in 1838. In 1839 he engaged in business in New York in what afterward became the Hazard Powder Company, of which he became president in 1867. In 1876 he retired from active business, and thereafter devoted his time to the study of archeology, and chiefly to the investigation of Indian remains in the United States. He spent ten winters in Florida, locating and exploring more than 50 Indian mounds and collecting more than 22,000 archeological specimens, now exhibited in the American Museum of Natural History in New York city. Mr. Douglass was the author of many papers on archeology.

Draper, Herbert Lemuel, officer in the United States Marine Corps, born in Papernville, Canada, Dec. 24, 1866; died in Hong-Kong, China, in September, 1901. He was appointed to the Naval Academy in 1883; became 2d lieutenant Marine Corps, July 1, 1889; 1st lieutenant, July 1, 1891; and captain, March 3, 1899. His first conspicuous service was in 1893, at the time of the troubles in Hawaii, when he commanded the marines sent ashore from the Boston to preserve order and to protect American interests in Honolulu. In the Spanish-American War he served as adjutant of Col. Huntington's battalion, and for conspicuous service in the occupation and defense of Guantanamo, where he was the first to raise the United States flag on Cuban soil, he was brevetted captain. Afterward he was sent to the Philippines, where, on his post at Subig, he rendered efficient service, and for a time served as collector of customs for the district.

Draper, William Henry, physician, born in Brattleboro, Vt., Oct. 14, 1830; died in New York city, April 26, 1901. He was graduated at Columbia College in 1851. While attending college he played the organ in St. Thomas's Church, then at Broadway and Houston Street. He was graduated at the College of Physicians and Surgeons in 1855, and took the degree of M. A. at Columbia the same year. He then studied in Paris and London, and in 1869 was appointed Clinical Professor of Diseases of the Skin at the College of Physicians and Surgeons. After a time he retired from that professorship to take that of Clinical Medicine in the same college. He held that post from 1879 to 1898, when he retired, but was appointed emeritus professor. Dr. Draper became attending physician in the New York Hospital in 1862, and acted until 1889, when he retired on account of failing health, but took up the service again in 1893. He served the hospital in all thirty-nine years. He was connected with the New York House of Mercy, St. Luke's and Roosevelt Hospitals, and the Northwestern Dispensary. In 1893 he was Roosevelt's president of the Medical Board. During the civil war he made a trip to the peninsula in connection with the Sanitary Commission. Dr. Draper was a general practitioner, always objecting to specialization.

Drysdale, William, journalist and author, born in Lancaster, Pa., July 11, 1852; died in Cranford, N. J., Sept. 20, 1901. He received his early education from his father, and was for a time a student at Columbia Law School. His

reporting of the trial of Henry Ward Beecher, in 1874, for the New York Sun, put him in the first rank of newspaper reporters. For one year, 1876, he was city editor of the Philadelphia Times, and in 1877 he joined the staff of the New York Times, with which paper he was connected for more than twenty years. In 1879 he was sent by his paper into Mexico and Cuba, and much of his time thereafter was spent in those countries. He also did correspondence work in Europe. His stories for boys, drawn chiefly from the experiences of his wanderings in the Antilles, achieved a wide popularity. He published Proverbs from Plymouth Pulpit (selections from the writings and sayings of Henry Ward Beecher); In Sunny Lands: Outdoor Life in Nassau and Cuba; The Princess of Montserrat: The Mystery of Abel Forefinger: The Young Reporter; The Fast Mail; The Beach Patrol: The Young Supercargo; Cadet Standish of the St. Louis; Helps for Ambitious Boys; Helps for Ambitious Girls; and the Treasury Club.

Du Barry, Beekman, soldier, born in Bordentown, N. J., Dec. 4, 1828; died in Washington, D. C., Jan. 12, 1901. He was the eldest son of Dr. Edmund Louis Du Barry, a surgeon in the United States navy. His mother was the youngest daughter of Col. William Duane. He was graduated at West Point in 1849, and assigned, as a brevet 2d lieutenant, to the 1st Artillery. In September of that year he sailed with his company for Florida, where he served against the Seminoles until September, 1850. He then served as Assistant Professor of Ethics at West Point until April, 1853, when he went for three months on exploration duty in connection with the first reconnaissance for a Northern Pacific Railroad route. After his return he was on duty as Assistant Professor of French at West Point until May, 1854, when he went with his company, by way of the Isthmus, to San Diego, Cal., and thence to Fort Yuma, Cal., serving there till September, 1856. He had been made 2d lieutenant of Light Battery E, 3d Artillery, Feb. 13, 1850, and 1st lieutenant, Dec. 24, 1853, and during much of the time he was in command of his company, was also post commissary, and as acting assistant quartermaster designed and constructed the buildings at Fort Yuma. In November, 1856, he went to Fort Snelling, Minn., and in the following year served in the expedition against the Sioux Indians on Yellow Medicine river; and later served in Kansas in quelling the disturbances connected with the formation of a State Constitution in 1857-'58. In the winter of 1857-'58 he was detailed to examine the Missouri river from Fort Leavenworth to the mouth of the Platte, and to select a site for a depot for the army in Utah. The following September he marched with the battery from old Fort Scott, Kansas, through Missouri and western Iowa, to Fort Ridgely, Minnesota., where he was on duty till the spring of 1859. After a four months' leave of absence he again served as Assistant Professor of French at West Point till May 11, 1861, when he was appointed captain and commissary of subsistence and ordered to Harrisburg, Pa. He organized the supply for Gen. Patterson's army on the line to Harpers Ferry, and forwarded by rail the troops arriving there in the first months of the war. From December, 1861, till September, 1862, he served as chief commissary in western Kentucky, West Tennessee, and northern Mississippi. From October, 1862, until December, 1864, he was purchasing and depot commissary at Cincinnati, Ohio, and he was then ordered to Washington as assistant to the commissary-general of subsistence, in whose office he

served until Nov. 3, 1873. He was then on purchasing and depot duty in St. Paul, Minn., till September, 1876; in Boston till May, 1877; and in New York till August, 1879. He served at the Military Academy from September, 1879, until September, 1881. He was brevetted lieutenant-colonel and colonel, March 13, 1865, for faithful and meritorious service during the war, and received the rank of major, Feb. 9, 1863; lieutenant-colonel, May 20, 1882; and colonel, Sept. 3, 1889. From April, 1882, he served as assistant to the commissary-general of subsistence until July 10, 1890, when he was appointed commissary-general of subsistence with the rank of brigadier-general, which post he filled until his retirement, Dec. 4, 1892.

Duffield, John Thomas, clergyman and educator, born in McConnelburg, Pa., Feb. 19, 1823; died in Princeton, N. J., April 10, 1901. He was graduated at Princeton in 1841, and took charge of the mathematical department of Union Academy, Philadelphia. He entered Princeton Theological Seminary in 1844, and in 1845 he was appointed tutor of Greek in Princeton. From 1847 till 1854 he was Adjunct Professor of Mathematics, and in 1854 he was appointed to a full professorship. He was licensed to preach in 1849, and for several



years he filled the pulpit of the Second Presbyterian Church in Princeton, in the founding of which he was mainly instrumental, and at the time of his death he was president of the board of trustees. In 1865 he was moderator of the Synod of New Jersey. The degree of D. D. was conferred upon him by Princeton in 1872, and Lake Forest University in 1890 gave him the degree of LL. D. Prof. Duffield was an abundant contributor to current religious literature, and he had written a great deal in the last years of his life in advocacy of the revision of the Westminster Confession of Faith, being one of the few Princeton professors that advocated the movement. After his retirement from active class-room duty he was chairman of the Faculty Committee on Scholarships and Charitable Funds, and in the administration of this office he came notably into sympathetic touch with the students.

Dunglison, Richard James, physician and editor, born in Baltimore, Md., Nov. 13, 1834; died in Philadelphia, Pa., March 5, 1901. He was a son of Prof. Robley Dunglison, of Jefferson Medical College, and studied medicine under his father's direction. He was graduated at Jefferson Medical College in 1856. From 1862 till 1865 he served as acting assistant surgeon of the United States army, on duty in the military hospitals in Philadelphia. He was one of the originators of the Philadelphia Medical Times; edited Dunglison's Medical Dictionary, Dunglison's History of Medicine, etc., and was the author of Practitioners' Reference Book; Handbook of Diagnosis, Therapeutics, and Dietetics; The Present Treatment of Disease; a New School Physiology and Hygiene; Elementary Physiology and Hygiene;

and Surgical Diseases of Children (translated from the French by Guersant). He also edited and began the publication of *Dunglison's College and Clinical Record* in 1899.

Durfee, Thomas, jurist, born in Tiverton, R. I., Feb. 6, 1826; died in Providence, R. I., June 6, 1901. He was a son of Job Durfee (1790-1847). Both father and son were graduates of Brown University, and each was Chief Justice of the Supreme Court of Rhode Island. Thomas Durfee was graduated at Brown University in 1846, was admitted to the bar in 1848, and was reporter of the Supreme Court from 1849 till 1853. He then served as judge in the Court of Magistrates in Providence six years, one year as assistant and five years as presiding judge. He was a member of the Legislature from Providence, was speaker of the House from 1863 till 1865, and was in the Senate the following year, till he went upon the Supreme Court bench. In 1865 he became Associate Justice of the Supreme Court of Rhode Island, and in January, 1875, he was elected Chief Justice. From that time till March 14, 1891, when he resigned, Judge Durfee was at the head of the judiciary of the State, and his opinions are notable for their literary quality, force, and logic. During the civil war his pen and voice were powerful in the support of the National cause. He was Chancellor of Brown University from 1879 till 1888, and a trustee from 1876 till 1888. He received the degree of LL. D. in 1875. In addition to his many legal papers he published *The Complete Works of Job Durfee*, with a *Memoir of his Life* (1849); *Reports of Cases in the Supreme Court of Rhode Island*, 2 vols. (1851-'53); *Oration at Providence*, July 4, 1853; *Treatise on the Law on Highways*, begun by Joseph K. Angell and published in 1857; *Village Picnic*, and *Other Poems* (1872); *Gleanings from the Judicial History of Rhode Island* (1883); and *Some Thoughts on the Constitution of Rhode Island* (1887).

Eaton, C. Harry, artist, born in Akron, Ohio, Dec. 13, 1850; died in Englewood, N. J., Aug. 4, 1901. He taught himself his art. Among the rewards he received were a silver medal in Boston in 1887, a gold medal at the Prize Fund Exhibition at the American Art Galleries in New York city in 1888, and the William T. Evans prize at the American Water-Color Society Exhibition in 1898. His home was in Leonia, N. J., and the greater part of his work was done in New York. He was an associate of the National Academy of Design and secretary of the American Water-Color Society. His painting *Lily Pond* is owned by the Detroit Museum of Art.

Edwards, Arthur, clergyman and editor, born in Norwalk, Ohio, Nov. 23, 1834; died in Chicago, Ill., March 20, 1901. He was graduated at Ohio Wesleyan University in 1858, and immediately began work under the Detroit Conference of the Methodist Church, and was stationed at Marine, Mich. At the outbreak of the civil war he was appointed chaplain of the 1st Michigan Infantry, and he remained with the regiment till after Gettysburg, when he received the command of a cavalry regiment. After the war he was a publisher of Methodist literature. He became assistant editor of the *Northwestern Christian Advocate* in 1864, and four years later was appointed editor-in-chief of that paper, and served in this place till his death. He was the first to advocate the use of illustrations in the Church press. He was a member of six general conferences, and of the London Ecumenical Conference in 1881. He was also a member of the Baltimore Centennial Conference, and for ten years served as secretary of the Detroit Conference.

Ellicott, Henry J., sculptor, born near Ellicott City, Md., in 1848; died in Washington, D. C., Feb. 11, 1901. He was a great-grandson of Major Andrew Ellicott, who assisted Daniel H. Johnson in laying out the city of Washington. Mr. Ellicott received his early education in Washington, and then studied in the Academy of Design, New York city. Among his first works of prominence were the bronze statues for the monuments of the 1st and 2d Pennsylvania Volunteers on the battle-field of Gettysburg. The equestrian statues of Gen. Hancock, in Washington, and of Gen. McClellan, in Philadelphia, are probably his best-known productions. He also made busts of many well-known Americans, among others one of the late Zebulon B. Vance, for the State Capitol in Raleigh, N. C.

Emery, John James, local character, born in Fairfield, Me., Aug. 28, 1806; died in Roxbury, Mass., Oct. 4, 1901. He was one of fifteen children, was educated in the common schools, and studied surveying. He was an extensive farmer, and also carried on a large lumbering business. He was a selectman and county surveyor, and represented his town in the Legislature. In 1870 he removed to Turners Falls, Mass., to engage in business, and in later years had resided in Dorchester and Boston. In 1839 he was the innocent cause of what is known as the Aroostook War. During the boundary dispute with Canada he was sent to look over the ground and make a report upon it. While doing this he was captured by British soldiers and taken into Canada. When the affair became known there was great excitement, and immediate talk of war. The State troops were ordered out under the direction of the President, and sent to the boundary to secure his release. The Canadian Government released him before the Maine troops reached the scene, but at the same time assembled several regiments of troops on the border. President Van Buren sent Gen. Scott to take command, and he remained in the field till the trouble was over.

Esher, John Jacob, bishop of the Evangelical Church, born in Strasburg, Alsace, Dec. 11, 1823; died in Chicago, Ill., April 16, 1901. His family brought him to the United States when he was seven years old, and settled near Warren, Pa. In 1836 they removed to Illinois, settling on the banks of Des Plaines river, about 20 miles northwest of Chicago. Bishop Esher was licensed to preach at the first session of the Illinois Conference of the Evangelical Church, held in his father's house in 1845. After preaching one year in Illinois, one year in Iowa, and two years in Milwaukee, he was elected presiding elder of the Wisconsin district. At the close of his term the district was made the Wisconsin Conference, and he was stationed as missionary in Chicago and elected presiding elder of the Chicago district. Afterward, at Plainfield, Ill., he aided in the establishment of Northwestern College, assisted in its removal to Naperville, Ill., and as general solicitor laid the foundation of its endowment fund. For a time he served as editor of the Sunday-school literature of his Church, in Cleveland, Ohio, and at the same time he was editor of the *Christliche Botschafter*, and he was the first editor of the *Evangelical Magazine*. At the General Conference of 1863, held in Buffalo, N. Y., he was elected a bishop, and he was reelected for ten successive terms, serving till his death. From the time of his elevation to the bishopric his life was largely the history of the Church. He visited Germany in 1864 and again in 1900, and in February, 1865, organized the Germany Conference in Stuttgart. In 1884-'85 he visited Japan to re-

organize the mission work in that country, and, continuing the journey round the world, visited many mission fields. He recounted the story of his travels in his book *Über Länder und Meere*. In 1892 he again visited Japan, and organized the Japan Annual Conference. At the General Conference in 1895 he was appointed to write a systematic theology for official use in the Church, and he completed the manuscript only a few weeks before his death. About twenty years previously he prepared the catechism, which is the manual of doctrine in present use.

Evarts, William Maxwell, lawyer and statesman, born in Boston, Mass., Feb. 6, 1818; died in New York city, Feb. 28, 1901. He received his early education in the Boston Latin School, and was graduated at Yale College in 1837. He continued his studies at Harvard Law School, and

was admitted to the bar in New York in 1841. He immediately began practise in New York city, and soon established a reputation for learning and acumen, and was often consulted by older lawyers. In 1849 he was appointed assistant district attorney, serving till 1853; while holding this office in 1851 he successfully conducted



ed the prosecution of the Cuban filibusters concerned in the Cleopatra expedition. The same year he was selected to argue in favor of the constitutionality of the metropolitan police act. He was retained as counsel by the State of New York in 1857 and 1860 to argue the Lemmon slave case before the Supreme Court and Court of Appeals. He identified himself with the Republican party, and in 1860 was chairman of the New York delegation to the National Convention in Chicago, where he delivered an address in placing the name of William H. Seward before the convention. In 1861 he was a candidate before the New York Legislature for the United States senatorship, but his name was withdrawn to enable his supporters to secure the election of Ira Harris. He then retired for several years from political life. In 1862 he conducted the case of the Government to establish in the Supreme Court the right of the United States in the civil war to treat captured vessels as maritime prizes. In 1865-'66 he maintained with success before the courts the unconstitutionality of State laws taxing United States bonds or national bank stock without the authorization of Congress. In 1868 he made a famous three-day argument before the United States Senate sitting as a court of impeachment, which resulted directly in the acquittal of President Johnson; from July 15, 1868, till the end of Johnson's administration, he was Attorney-General of the United States. In 1872 he was counsel for the United States before the Geneva Board of Arbitration, and his argument was potent in effecting a peaceful and honorable adjustment of the claims of direct damage against Great Britain for the devastations of the Alabama. In 1875 he was senior counsel for Henry Ward Beecher in the trial of the suit against him in Brooklyn. In 1877 he was the advocate of the Republican party before the electoral commission, and he became Secretary of State in the Cabinet of President Hayes. He was sent to Paris in 1881 as a delegate to the Inter-

national Monetary Conference. He was elected United States Senator from New York and served from March 4, 1885, till March 3, 1891. Soon after his seventy-fifth birthday he began to withdraw from public life, mainly on account of the failure of his eyesight. Mr. Evarts was known as a brilliant speaker at convivial gatherings and as an eloquent public orator; as an advocate he was without a superior in his time. On many important occasions he delivered addresses, several of which have been published, among them a eulogy on Chief-Justice Chase, delivered at Dartmouth College in June, 1873; the Centennial oration, in Philadelphia, in 1876; and speeches at the unveiling of the statues of William H. Seward and Daniel Webster, in New York, and of Bartholdi's Statue of Liberty. He received the degree of LL.D. from Union College in 1857, from Yale in 1865, and from Harvard in 1869.

Fee, John G., clergyman, born in Bracken County, Kentucky, Sept. 9, 1816; died in Berea, Ky., Jan. 11, 1901. He was the first son of a thrifty farmer, John Fee, who had inherited one slave and bought others. At the age of sixteen young Fee united with the Presbyterian Church, and two years later entered Augusta College, where he was finally graduated, although in the meantime he had studied at Miami University, Oxford, Ohio. He entered Lane Seminary, Cincinnati, in 1842, and there he became an ardent abolitionist. On returning home in 1844, he incurred the lasting anger of his father, who disinherited him when it was discovered that young Fee had sold all his possessions, and with the proceeds bought one of his father's slaves and set her free. The young preacher then married Matilda Hamilton, removed to Lewis County, and there began evangelistic work. The Synod of Kentucky, meeting at Paris, Ky., in 1845, censured him for not giving fellowship in his church to slaveholders, and requested the American Mission Society to give him no more aid as an evangelist. But Fee persisted in his work, gathering his little antislavery congregations in Lewis and Bracken Counties, suffering all sorts of indignities, and often meeting with mob violence. His life was constantly threatened. Once, while sitting in the door of his house, he was fired on. Once an assistant was flogged before his eyes, and he was threatened. While he was preaching at College Hill, a mob of 60 men surrounded the house with pistols and guns. Fee was dragged out, and a man with a rope swore that he would be swung up if he did not leave the county. He declined to do so, and went on preaching, unarmed and unafraid. In 1848 the American Missionary Association came to his aid with an allowance of \$200 a year, and his tracts against slaveholding were widely circulated in Kentucky and other States. His little book, *Antislavery Manual*, attracted the notice of Cassius M. Clay, who not long before had bought a large tract of land in the Kentucky mountains with the intention of keeping it forever free from slavery. In 1853 Gen. Clay asked Dr. Fee to accept a small farm on this tract, settle upon it, and become pastor of the district. The farm was but a clearing in the wilderness, but there Dr. Fee, with the help of faithful assistants, founded and built Berea College, open to all without regard to sex or color, which now has more than 600 students. Dr. Fee remained at its head till about 1869. Mobs repeatedly threatened to extinguish it, and twice the members of the little colony were driven from their homes; but they went back again and stayed, and the work of their hands prospered. Dr. Fee and his friends

also built schoolhouses in Pulaski and Rockcastle Counties, Kentucky. Some of these buildings were burned by mobs, and often the schools were broken up by violence. He lived to enjoy the respect and reverence of the men who were his bitterest opposers, many of whom since the war have moved to Berea to educate their children. Dr. Fee, in his Autobiography, has vividly told of his early struggles.

Fisher, William Alexander, jurist, born in Baltimore, Md., Jan. 8, 1837; died there, Sept. 26, 1901. He was graduated at Princeton in 1855, and in 1858 was admitted to the bar in his native city. He achieved a national reputation as a lawyer, and became a leader of the conservative element of the Democratic party in his State. He was elected to the State Senate in 1879. In 1882, in the attempt to reform the judiciary, he was elected to the Supreme bench of Baltimore on the tickets of the regular Democratic party and of the Independent Republicans and Democrats.

Fisk, Franklin W., clergyman and educator, born in Hopkinton, Vt., in 1820; died in Chicago, Ill., July 4, 1901. He was graduated at Yale in 1849, and after teaching for a short time there he accepted the chair of Sacred Rhetoric in the seminary at Beloit, Wis. Oct. 6, 1858, he was called to a similar place in Chicago Theological Seminary, then organizing. He held this professorship till 1900, and was president of the institution for the last thirteen years of its incumbency. Upon his resignation he was made professor emeritus. He was one of the best known theologians and educators in the West.

Fiske, John, author, born in Hartford, Conn., March 30, 1842; died in Cambridge, Mass., July 4, 1901. He was the only child of Edmund Brewster Green, of Smyrna, Del., and Mary Fiske Bound, of Middletown, Conn. The father edited newspapers in Hartford, New York, and Panama, where he died in 1852. His widow married Edwin W. Stoughton, of New York, in 1855. The son's name was originally Edmund Fiske Green; in 1855 he took the name of his maternal great-grandfather, John Fiske. He lived in Middletown, Conn., during his childhood, and was graduated at Harvard in 1863, and at Harvard Law School in 1865, having been already admitted to the bar in 1864, but he never practised law to any extent. He delivered a course of lectures on Positive Philosophy at Harvard in 1869, and in the following year he was an instructor in that institution. From 1872 to 1879 he was assistant librarian, and after his resignation he was made a member of the Board of Overseers of the university. After 1881 he lectured annually on American history at Washington University, St. Louis, Mo., and after 1884 held a non-resident professorship of American History in that institution. He lectured on American history at University College, London, in 1879, and at the Royal Institution of Great Britain in 1880, and after 1871 he delivered hundreds of lectures, chiefly upon American history, in the United States and Great Britain. His inquiries into the philosophy of human progress led him to a careful study of the doctrine of evolution, and it was as an expounder of that doctrine that he was first known to the public. His career as an author began in 1861, with an article on Mr. Buckle's Fallacies, published in the National Quarterly Review. He was afterward a frequent contributor to periodicals. His published works are *Myths and Mythmakers* (1872); *Outlines of Cosmic Philosophy* (2 vols., 1874); *The Unseen World* (1876); *Darwinism and Other Essays*

(1879); *Excursions of an Evolutionist* (1883); *The Destiny of Man* (1884); *The Image of God* (1885); *American Political History*; *The Critical Period of American History*; *The War of Independence* (1889); *The Discovery of America* (2 vols., 1891); *The History of the United States for Schools* (1891); *Edward Livingston Youmans* (1894); *Virginia and her Neighbors* (2 vols., 1897; illustrated edition, 1901); *The Critical Period* (1897); *The Dutch and Quaker Colonies in America* (2 vols., 1899); *Through Nature to God* (1899); *A Century of Science* (1900); *The Mississippi Valley in the Civil War* (1900). He edited, with James Grant Wilson, Appletons' *Cyclopædia of American Biography*.

Fitz, E. B., actor, died in Chicago, Feb. 14, 1901. He made his first appearance in 1871 in the war drama entitled *Home and Country*, afterward playing with small companies in the United States until 1879, when he joined the Barlow, Wilson, Primrose and West Minstrels, and appeared with that company for several years in all parts of the country. At the conclusion of this engagement he entered the vaudeville field, with his wife, Kathryn Webster, where he soon won a prominent place, making musical sketches his specialty. After considerable experience in this work, Mr. Fitz became associated at different periods, with Hallen and Hart, Rich and Harris, Ezra Kendall, and the Two Johns Company. In 1890, in partnership with the late Dan Shelby, he produced *A Breezy Time*, a successful farce-comedy. After the first season with this piece, Mr. Fitz assumed sole control of it, and at the time of his death three traveling companies were playing it under his management.

Flohr, William Henry, theatrical manager, born in Halifax, Nova Scotia, in 1836; died in New York city, Jan. 4, 1901. In early boyhood he removed with his parents to Boston, and at the age of seventeen obtained a place as flyman in the Boston Theater. After serving a long apprenticeship in the mechanical department of that house he became assistant to W. H. Curtis, an old actor, in the costuming business. In 1869 he was engaged by Edwin Booth as his assistant stage-manager and master of wardrobe, and he remained Mr. Booth's most trusted lieutenant nearly twenty-four years. He knew the lines and business of all the plays in that tragedian's repertoire, rehearsed the various stock companies with which Mr. Booth appeared, and was in full charge of the minor details of every production. On Oct. 12, 1872, at the Lyceum Theater, Lewiston, Me., where the company was engaged to open the new house, Mr. Flohr was badly burned in putting out a fire that was discovered under the stage just as the performance was beginning. For this service, which averted a fearful catastrophe, he received a handsome reward. In the intervals caused by Mr. Booth's absence on his European tours Mr. Flohr managed companies in Philadelphia, and in 1876 he accompanied Lawrence Barrett on a tour to the Pacific coast. After leaving Mr. Booth, Mr. Flohr was stage-manager of the Park Theater and the Grand Opera-House, and later superintendent of the new American Theater, all in New York city.

Ford, Albert Matthew, tide calculator, born in Philadelphia, Pa., Dec. 6, 1841; died in Salem, N. J., Nov. 11, 1901. He was educated by private tutors, and later at the Hill School, Pottstown, Pa. He early devoted much time to mathe-

matics and navigation, which in later years took the practical form of observations of the tides that made Salem the tidal center of Delaware Bay. He was also fond of languages, and at his death fluently spoke Spanish, French, German, and Swedish, and in collaboration with a Swedish gentleman he wrote and published (1872) a Swedish and English word-book. After leaving school he was a post-office clerk, a railroad clerk, and a reporter. He afterward went to Salem, N. J., where he devoted the remainder of his life to study of the tides. He issued each month, at his own expense, tide cards for Delaware river and bay and for the Atlantic coast of New Jersey. These were always in demand.

Fraley, Frederick, banker, born in Philadelphia, Pa., May 28, 1804; died there, Sept. 23, 1901. He studied law, but entered early into the hardware business, and never practised. He was president of the Western Savings Fund Society, and was associated executively with many of Philadelphia's great financial institutions. He was one of the founders of the Franklin Institute, in 1824, and for many years its treasurer; one of the original incorporators of the Philadelphia Board of Trade, and its president after 1894; president of the National Board of Trade from its foundation, in 1868, until 1900; and one of the organizers of the Centennial Exhibition in 1876. He served as president of the American Philosophical Society after 1880; was one of the original trustees of Girard College, 1847; one of the founders of the Union League; and a trustee of the University of Pennsylvania after 1853. He was a member of the Philadelphia city council in 1834, a State Senator in 1837, and a delegate to the national convention that nominated William Henry Harrison for the presidency.

Frazar, Everett, Korean consul-general in the United States, born in Duxbury, Mass., Oct. 4, 1834; died in Orange, N. J., Jan. 3, 1901. In 1858 he sailed from Boston for Shanghai, China, and there established the firm of Frazar & Co., which is still in existence. Branches were opened in Nagasaki, Japan, in 1860; in Hong-Kong, in 1875; and in Yokohama, in 1878. The firm originally dealt in silks, straw, tea, petroleum, and cotton goods, but in late years has devoted its attention to the introducing of electric lighting into Japan and China. Mr. Frazar was appointed by the King of Korea as consul-general in the United States, the exequatur, issued by President Arthur, bearing the date of April 3, 1884. In 1886 he concluded arrangements with the Canadian Pacific Railway for the opening up of the new Canadian Pacific route with China and Japan under the management of his company. In September, 1888, Mr. Frazar received from the King special marks of recognition for services rendered to Korea. Gold and jade decorations were sent to him, and with them a special decree conveying the honorary title of Ka-Sun-Tai-Poo, Korean nobleman of the second rank. After 1872 he was the resident partner of Frazar & Co. in New York city. He was president of the American-Asiatic Society.

French, John William, soldier, born in Washington, D. C., June 2, 1843; died at Fort McPherson, Ga., Nov. 11, 1901. He enlisted, April 17, 1861, as a private in the 7th New York Infantry. He was discharged from the volunteer service June 3, 1861, and on Oct. 24 was appointed 2d lieutenant in the 8th Regular Infantry, and in that capacity served through the war. He was twice brevetted—1st lieutenant, Aug. 19, 1864, for gallant and meritorious services in the fight for the Weldon Railroad, and captain,

Oct. 28, 1864, for gallant and meritorious services in the battle of Hatcher's Run. He was commissioned 1st lieutenant in the 8th Regular Infantry, Jan. 9, 1866, and captain in the 40th Infantry, July 28 of the same year. He was transferred to the 25th Infantry, April 20, 1869. He received his commission as major of the 14th Infantry, Nov. 1, 1891, and as lieutenant-colonel of the 23d Infantry, July 5, 1895. He served with his regiment during the Spanish-American War and in the Philippines, and on the death of Col. Egbert became colonel of the 22d Infantry, March 26, 1899. In March, 1900, he was detailed as commanding officer of Fort McPherson, Ga., and while there he organized seven companies of the 27th Infantry garrisoning the post.

Fry, Charles Carleton, soldier, born in Lynn, Mass., in May, 1842; died there, March 21, 1901. He received a common-school education, and went into the shoe business, and for many years was a manufacturer. In 1875 he was elected city auditor, and in 1876 and 1877 he was city marshal. In 1880 he became clerk and treasurer of the Lynn Gas Company, and after its reorganization and incorporation as the Lynn Gas and Electric Company he was continued in his former offices with the added duties of general manager. For several years he served in the Lynn Common Council, and a part of the time was president of that body. During this time he was also a member of the school board. From Sept. 15, 1862, till Aug. 7, 1863, he served in the 8th Massachusetts Volunteers, and he became 1st lieutenant, Jan. 27, 1865. He served in this capacity till appointed quartermaster of the 8th Regiment, July 21, 1874, and on Aug. 3, 1874, he was made adjutant, and served till he was discharged, April 26, 1876. He was made assistant adjutant-general, with the rank of lieutenant-colonel, March 4, 1882, and upon his retirement, in July, 1897, was made a brigadier-general on the retired list.

Fuller, Thomas C., jurist, born in North Carolina in 1831; died in Raleigh, N. C., Oct. 20, 1901. He was a member of the Confederate Congress, and was elected to the United States House of Representatives immediately after the civil war, but was not seated. He was an able lawyer, and was appointed, June 10, 1891, Associate Justice of the United States Court of Private Land Claims, upon the recommendation of both the Republicans and Democrats of his native State. He served in this office till his death.

Fulton, Justin Dewey, clergyman, born in Sherburne, N. Y., March 1, 1828; died in Somerville, Mass., April 16, 1901. His father was a Baptist preacher of Irish descent, who removed to Brooklyn, Mich., in 1836. There the son received his early education at an academy, and in 1847 he entered the University of Michigan. In his senior year he entered the University of Rochester, where he was graduated in 1851. He then studied at the Theological Seminary, after which he took charge of a Bible Union paper in St. Louis. The paper was highly successful, but Mr. Fulton's hostility to slavery roused bitter opposition. In May, 1854, he was ordained and installed as pastor of the Tabernacle Baptist Church, where he delivered the first Free State sermon in St. Louis. The church and paper both grew rapidly, but in May, 1855, the stockholders of the Gospel Banner resolved that the editor must believe in and uphold slavery, and Mr. Fulton resigned. He afterward accepted a call to a church in Sandusky, Ohio, which increased under his leadership, while he was the means of reviving six churches in the Huron Association.

In 1859 he became pastor of the Tabernacle Church, Albany, N. Y., and in December, 1863, took charge of Tremont Temple congregation, Boston, where he remained ten years, and won his rank among the foremost pulpit orators. When he assumed this pastorate there were only 50 members, but during his charge the membership increased to 1,000, and the income to more than \$23,000. In 1873 Dr. Fulton was called to Hanson Place Baptist Church, Brooklyn, N. Y., which he left in 1875 for the Clinton Avenue Chapel, where in December of the same year the Centennial Baptist Church was organized. In September, 1879, the Clermont Avenue Rink was occupied by the church as a place of worship. In November, 1894, he became pastor of the First Baptist Church of Somerville, Mass., where the remainder of his life was spent. He retired from active duty in 1897. He was a popular lecturer. While in St. Louis he published his *Roman Catholic Element in American History*. At one time his lectures became so virulent that it became difficult for him to secure a hall. One of his books on the priesthood was confiscated by Anthony Comstock, and in 1879 he was suspended by the Baptist Preachers' Association of New York, but he was reinstated. His books and published lectures include *Why Priests should Wed*; *How to Win Romanists*; *Washington in the Lap of Rome*; *The Fight with Rome*; *Sam Hobart, the Railroad Engineer*; *Spurgeon our Ally*; *Timothy Gilbert*; *Cornelia Harmon, or the Way Out*; *The True Woman*; *Rome in America*; and *Witnessing for the Truth*. In 1875 he made an extended trip through the South, lecturing upon *The American of the Future*: Shall he be a Partisan or a Patriot?

Gardner, Anna, abolitionist, born in Nantucket, Mass., Jan. 25, 1816; died there, February, 1901. She was of Quaker ancestry. When a girl she read the *Liberator* and became interested in the antislavery cause. In 1841 she published the call for the first antislavery meeting in Nantucket, at which Frederick Douglass made his first public speech and electrified his audience. She delivered many lectures during the years immediately preceding the civil war, and after the war she taught in freedmen's schools in Virginia and North and South Carolina. In 1878 she returned to New York city, where soon afterward she was severely injured in a carriage accident. After many weeks of suffering and a partial recovery, she returned to her old home in Nantucket. She lectured several times before the Nantucket Athenæum. She was a fluent writer, and in 1881 she published her best work in a volume of prose and verse entitled *Harvest Gleamings*.

Gardner, William Montgomery, soldier, born in Augusta, Ga., in 1823; died in Memphis, Tenn., June 16, 1901. He was graduated at West Point in 1846. As a lieutenant, in the battle of Contreras, Mexico, Aug. 26, 1847, he won distinction by storming a battery with a single platoon of American soldiers and taking the guns. At the outbreak of the civil war he became colonel of the 8th Georgia Regiment.

Gemünder, Otto, violin-maker, born in New York city, Aug. 10, 1871; died there, June 10, 1901. He was the youngest of the three sons of the late George Gemünder, the famous maker of violins, who followed their father's business, and he showed great promise in his chosen art. During the last ten years of his life the father did no active work himself, but bent every effort to instilling into his sons the love for his art and the cunning of his hand in the fashioning of violins.

Getchell, Emily Adams, born in Newbury (now a part of New Bedford), Mass., Feb. 7, 1850; died there, July 2, 1901. She began to write when a child, and when she was eighteen years old her first poems appeared in a local paper. She also composed the music for many of her poems. She was well known throughout New England for her active interest in charities and in literary research. For several years she has been secretary of the Old Newbury Historical Society and of the General Charitable Society of Newburyport. The organization of the National Association of the Pillsbury Family was brought about chiefly through her efforts, and in 1898 she published the *History of the Pillsbury Family in America*.

Getty, George Washington, soldier, born in Georgetown, D. C., Oct. 2, 1819; died in Forest Glen, Md., Oct. 2, 1901. He was graduated at West Point in 1840, and entered the service as a 2d lieutenant, 4th Artillery. He was made a 1st lieutenant, Oct. 31, 1845; a captain, Nov. 4, 1853; transferred to 5th Artillery, May 14, 1861; commissioned major, Aug. 1, 1863; colonel, 37th Infantry, July 28, 1866; transferred to 3d Infantry, March 15, 1869; transferred to 3d Artillery, Jan. 1, 1871; transferred to 4th Artillery, July 17, 1882. Col. Getty served in the Mexican War, and Aug. 20, 1847, he was brevetted captain for gallant and meritorious services at Contreras and Churubusco. In the civil war he served in the Army of the Potomac. He was commissioned lieutenant-colonel of volunteers, Sept. 28, 1861; he served as aide-de-camp during the Peninsular campaign, and was made brigadier-general of volunteers, Sept. 25, 1862. He was severely wounded in the battle of the Wilderness, but recovered sufficiently to join his command before Petersburg. For gallant and meritorious services in various battles of the civil war he received the following brevet commissions: Lieutenant-colonel, April 19, 1863; colonel, May 5, 1864; brigadier-general and major-general, March 13, 1865; and major-general of volunteers, Aug. 1, 1864. He was honorably mustered out of the volunteer service, Oct. 9, 1866. On April 3, 1867, he was placed in command of the district of New Mexico. He commanded the troops along the Baltimore and Ohio Railroad during the riots of 1877. He was retired Oct. 2, 1883.

Gihon, Albert Leary, medical director United States navy, born in Philadelphia, Pa., Sept. 28, 1833; died in New York city, Nov. 17, 1901. He was educated in the Philadelphia High School, receiving the degree of A. B. in 1850; of M. D., from the College of Medicine and Surgery, in 1852; and of A. M., from Princeton, in 1884. He was Professor of Chemistry and Toxicology in the Philadelphia College of Medicine and Surgery in 1853 and 1854, and entered the navy as assistant surgeon, May 1, 1855. He was assigned to the sloop-of-war *Portsmouth*, and was present in November, 1856, at the battle that resulted in the taking of the Barrier forts at Canton, China. He served on the Paraguay expedition in 1858 and 1859, and in 1860 he was sent to the Brooklyn Naval Hospital, where he remained a year. He was in the brig *Perry*, cruising off the coast of the Southern States, when the Confederate privateer *Savannah* was captured. From 1862 to 1865 he was on the *St. Louis*, and after the war was sent to the Portsmouth yard as senior medical officer. He was on board the *Idaho* when that ship was wrecked in the typhoon of Sept. 21, 1869, and for services in the Portuguese colony at Dilly, on the island of Timor, and to the Portuguese men-of-war *Principe Dom Carlos* and *Sa*

da Bandeira, he received from the King of Portugal, with the consent of Congress, the decoration of Knight of the Military Order of Christ. For services to the British men-of-war *Flint* and *Dawn* he received the thanks of the British Government, and for similar services to the French gunboat *Scorpion* those of the commander-in-chief of the French East India station. After special duty in Brooklyn in 1870 he was attached to the Marine Rendezvous in Philadelphia, and was a member of examining boards. Three years later he was surgeon of the fleet on the European station. He designed and superintended the construction of the model hospital ship for the Centennial Exposition of 1876, and at that exhibition presented his ambulance cot, which was adopted for use in the navy. He was made a medical director in 1879, and was afterward on duty in Norfolk, Va., Washington, D. C., Mare Island, Cal., Brooklyn, and New York. May 1, 1895, as senior medical director, he was transferred to Washington, to take charge of the medical headquarters. He was retired, Sept. 28, 1895, with the rank of commodore. He was author of *Practical Suggestions in Naval Hygiene* (1871); *Public Health* (papers and reports of the American Public Health Association, 1877 to 1898); *Naval Hygiene* and other papers in *Wood's Handbook of the Medical Sciences* (1885); and *Demography*, in *Annual of the Universal Medical Sciences* (1885).

Gillespie, Elizabeth Duane, philanthropist, born in Philadelphia, Pa., Jan. 15, 1821; died there, Oct. 13, 1901. She was a great-granddaughter of Benjamin Franklin, and at her death was his oldest descendant. Her father, William Duane, in 1805 married Deborah Bache, a granddaughter of Franklin. Elizabeth Duane married, in 1849, Lieut. Gillespie, of the United States Marine Corps, who died in 1859. At the outbreak of the civil war she was placed in charge of the hospital for wounded soldiers, and later she became interested in the Women's Sanitary Fair, held in Logan Square, Philadelphia. She was a member of the women's committee appointed to cooperate with the Board of Finance in securing money for the Centennial Exposition in 1876, and she not only secured a large amount for the exposition itself, but was instrumental in erecting and furnishing the Women's Building. In 1877 Mrs. Gillespie went to Europe, where for four years she interested herself in the giving of entertainments to the deserving poor. Upon her return to the United States she took a leading part in organizing the Colonial Dames and other patriotic societies. She was also an active worker in many charitable organizations. In 1890 litigation was begun simultaneously in Philadelphia and Boston to set aside some of the trusts provided for in the will of Benjamin Franklin. Mrs. Gillespie was appointed administrator of the Franklin residuary estate with the will annexed, and the litigation was prosecuted until April, 1895, when Judge Arnold, by sustaining a demurrer of the defendants (the city of Philadelphia and the Board of City Trusts), put an end to it. She published *A Book of Remembrance*.

Gleason, Elliott Perry, inventor and manufacturer, born in Westmoreland, N. H., June 27, 1821; died in New York city, Sept. 26, 1901. At the age of fifteen he removed to Boston, and later to Providence, where in 1851 he went into business, under the firm name of Mooney & Gleason, in the manufacture of gas-burners and supplies. He invented the regulating Argand gas-burner, the two-hole or fish-tail gas-burner tip, and many other devices, and was identified with the devel-

opment of electric lighting. In 1861 he removed his business to New York, where in 1871 he incorporated the E. P. Gleason Manufacturing Company, of which he was president and principal owner. He also owned the Gleason Knitting and Manufacturing Company, and was the principal owner of the Gleason & Bailey Company, manufacturers of fire-department apparatus—both in Seneca Falls, N. Y., where he was known as "the working man's friend." He was president of the Gleason-Peters Air-Pump Company, the Lawler Water-Feed and Damper-Regulator Company, and the Steam-Boiler Equipment Company, of New York, and he conducted in Brooklyn the manufacture of glassware for illuminating.

Gobrecht, William H., surgeon, born in Philadelphia, Pa., March 7, 1828; died in Washington, D. C., July 19, 1901. He was graduated at the Pennsylvania Medical College, March 7, 1849, and soon afterward he was appointed demonstrator of anatomy there, where he served until he was made Professor of Anatomy in the Philadelphia College of Medicine, from which he was transferred to the professorship of Anatomy in the Pennsylvania Medical College. He filled this chair till the outbreak of the civil war, when he entered the National army as surgeon of the 49th Pennsylvania Volunteers, in August, 1861. Early in 1863 he was appointed surgeon United States Volunteers, and detailed on the board to examine applicants for appointment as surgeons. While on this duty he was successively surgeon in charge of Seminary United States General Hospital, at Covington, Ky., and West End United States General Hospital, Cincinnati, Ohio; subsequently organized and was appointed surgeon in charge and treasurer of the Military Hospital for Officers at the same place. He was subsequently post surgeon at Camp Dennison, Ohio, then post surgeon at Johnson's island. In the early part of 1866 he was honorably discharged with the brevet rank of lieutenant-colonel for faithful and meritorious services. Before the close of the war he was appointed Professor of Anatomy in the Medical College of Ohio, Cincinnati, which chair he held about ten years. After several years he accepted the chair of Anatomy in Fort Wayne Medical College and Fort Wayne College of Medicine, remaining there four years. He was then appointed in September, 1882, qualified surgeon in the Bureau of Pensions at Washington, D. C. Dr. Gobrecht edited Allen's *Dissector's Guide*, Wilson's *System of Human Anatomy*, Curling on *Disease of the Testis*, Miller's *Obstetrics*, and Eve's *Remarkable Cases in Surgery*. He was a member of the National Academy of Sciences.

Gorham, Charles T., banker, born in Danbury, Conn., May 29, 1812; died in Marshall, Mich., March 11, 1901. He went to Michigan in 1836, and in 1840 engaged in banking, which he conducted till 1865. In that year he organized the First National Bank of Marshall, and he continued at its head till his retirement in January, 1898. In the early days he was a Democrat, but upon the organization of the Republican party he identified himself with it. He was well known as a friend of the slaves, and assisted many of them to escape. In 1858 he was major-general of the Michigan State Militia, and the following year he served in the State Senate. He also served as minister to The Hague during President Grant's first term, resigning to return to look after his business affairs, and as Assistant Secretary of the Interior during the term of President Hayes.

Graham, Robert, educator, born in Liverpool, England, Aug. 14, 1822; died in Pittsburg, Pa., Jan. 20, 1901. He was brought to the United States when a boy, and united first with the Methodist Church in Pittsburg, and afterward with the Disciples or Christian denomination, founded by Alexander Campbell. While working at his apprenticeship as carpenter he devoted his leisure time to study, and so soon as he became of age he entered Bethany College, West Virginia, of which Alexander Campbell was then president. He was graduated in 1847, and made a tour of the Southern States in the interest of the college. He settled as pastor in Fayetteville, Ark., in 1848, and there founded Arkansas College, and was its president from 1850 till 1859. He was then elected to the chair of English History and Literature in Kentucky University, Lexington. During the war he went to Cincinnati, and was pastor of a Christian church there till 1864, when he went to San Francisco and founded a church of his denomination. In 1866 he was elected president of the College of Arts of Kentucky University. He was at the head of this and afterward of the Bible College of the same institution, save for six years, when he was president of the Hamilton Female College, in the same city, till June, 1898.

Gray, Elisha, inventor, born in Barnesville, Ohio, Aug. 2, 1835; died in Newtonville, Mass., Jan. 21, 1901. As a boy he worked at blacksmithing, carpentry, and boat-building. At the age of twenty-one he entered Oberlin College, where he studied five years, devoting his time to the physical sciences, and making much of the apparatus used in class-room experimentation. In October, 1867, he obtained a patent for an automatic self-adjusting telegraph relay, the first of a long series covering his many inventions, chiefly in connection with the development of the telegraph and the telephone. He established himself as a manufacturer of electrical apparatus in Cleveland in 1869, and in 1872 organized the Western Electric Manufacturing Company, from which he retired in 1874 to go to Europe to perfect himself in the study of acoustics. He was for many years electrician to the Western Electric Manufacturing Company, and later he established the Gray Electric Company at Highland Park, Ill. He was the organizer and chairman of the Congress of Electricians held in Chicago in 1893. Prof. Gray invented a telegraphic repeater, a telegraphic switch, an annunciator for hotels, and a type-printing telegraph. In 1877 he received patents for a multiplex telegraph. His system is "based upon the ability to transmit a number of tones simultaneously over the same wire, and analyze them at the receiving end, so that each tone will be audible on a particular instrument which is tuned to it, but no other." He succeeded in sending 8 messages in this way over one wire. In 1893 he patented his telautograph, for transmitting writing or sketches. At his death he was experimenting upon a system of underwater fog-signals, using the sea as the connecting medium; and he had succeeded in transmitting signals by a bell, rung electrically under water, more than 12 miles. However, Prof. Gray's fame rests upon his early experimentation with, and his claim to, the discovery of the telephone. He found, when an end of a secondary coil was connected with the zinc lining of a dry bath-tub, that when he held the other end of the coil in his left hand, and touched the lining of the tub with his right hand, it would glide along the side for a short distance in making contact, giving rise to a sound that had the same pitch

and quality as that of a human voice, and contact-breaker. After further experiments he filed a caveat in Washington, D. C., in 1876, and the expectation of perfecting the system of the vocal sounds telegraphically. He obtained a broad patent for speaking-telegraph, including some of Prof. Gray's ideas, in 1876, and Prof. A. Graham Bell. Both men were in the invention, and after twenty years of litigation the courts awarded the credit to Bell, and in the opinion of many Prof. Gray was deprived of the rightful credit for a great invention. Sensational disclosures were made through affidavits of a patent-examiner named Wilbur, which convinced Prof. Gray that his caveat in the Patent Office had been revealed to the Bell people, and that they were thus enabled to make the instruments for which they received their patents. Prof. Gray was not able to put in any legal claim for rights himself because his patent rights were merged with the Bell patents by a deal between the Western Union Telegraph Company, which controlled the Gray patents, and the Bell company. By this merger the Western Union company received a yearly royalty of several hundred thousand dollars for staying out of the telephone field. Of this money Prof. Gray got but a small share. A further claim for \$12,000,000 was decided against the Western Union company by the courts in 1900, and this gave to Bell practically the credit for priority. Prof. Gray died poor. He had received comparatively large sums from time to time from his inventions, but he invariably used the money in expensive experiments toward new discoveries. He published *Experimental Researches in Electro-Harmonic Telegraphy and Telephony*, and *Elementary Talks on Science*.

Gray, William Cunningham, editor, born in Butler County, Ohio, Oct. 17, 1830; died in Oak Park, Ill., Sept. 29, 1901. His boyhood was spent in farm work, and his youth in teaching. While working in the woods at night, caring for the sugar-kettles, he wrote for his own amusement on pieces of shingle. Some of these writings found their way into the village newspaper, and this encouraged him to make an effort for a higher education. He secured admission to Gen. Samuel Cary's Academy at College Hill, near Cincinnati, in 1841, was graduated at Belmont College in 1849, and was admitted to the bar in 1852, but never practised. He became editor of the *Miami Democrat* in 1852, was editor of the *Scott Battery*, for the campaign of 1852, and in 1853 established the *Tiffin (Ohio) Tribune*. After one year as editorial writer on the *Cleveland Herald*, he became, in 1863, editor of the *Newark American*, continuing at its head till 1871, when he became editor of *The Interior*, Chicago, in which his *Camp-fire Musings* and editorials were widely read. He received the degree of Ph. D. from Wooster University, and that of LL. D. from Knox College. He was the author of *Camp-fire Musings* and *Clear Creek*.

Green, Lillian, singer, born in New York city, in 1876; died there, July 20, 1901. She sang first in the chorus and later in the title rôle of *Little Christopher* at the Garden Theater, New York. After a wide experience in standard and comic opera with the Murray-Lane company, she left the operatic stage and appeared as Mrs. Bagot in the first presentation of *Tribby*. Later she sang with the Casino company and with the summer opera companies. Her last important impersonations were the leading rôle in *My Lady* at the Victoria Theater, New York, in 1900, and *Viola in King Dodo*, in Chicago, in 1900-1901.

Greenough, James Bradstreet, educator, born in Portland, Me., May 4, 1833; died in Cambridge, Mass., Oct. 11, 1901. He was graduated at Harvard in 1836, studied at the Harvard Law School, and afterward went to Marshall, Mich., where he practised his profession till 1865, when he was appointed tutor in Latin in Harvard University. Eight years later he was made assistant professor, and in 1883 he became Professor of Latin, and he continued in that capacity till his resignation in April, 1901, on account of failing health. One of his greatest works was the establishing of the collegiate institution for women, at first unofficially called the Harvard Annex, now known as Radcliffe College. While the idea was his alone, he was assisted in organizing the movement by William W. Goodwin and Arthur Goodwin. Prof. Greenough was a member of its governing board from its foundation, and he was for many years its president. He was the first person to give instruction in Sanskrit, and to introduce it as a regular study in college courses. He was the author of a Latin grammar and of a series of classical text-books in collaboration with Joseph N. Allen. He published *Words and their Ways in English Speech*, in collaboration with Prof. George L. Kittredge (1901), and was the author of a *Special Vocabulary to Virgil and The Queen of Hearts, a Dramatic Fantasia*.

Gregory, Isaac M., humorist, born in Johnstown, N. Y., about 1836; died in New York city, March 5, 1901. He began his newspaper career on the *Fulton County Democrat*, and later was owner and editor of the *Mohawk Valley Democrat*, in Fonda, N. Y. He was connected at different times with the *Rochester Democrat and Chronicle*, the *Troy Whig*, and the *New York Graphic*. Mr. Gregory was editor of *Judge* from its foundation till his death. He was one of the old-time humorists, of whom Burdette, of the *Burlington Hawkeye*, and Bailey, of the *Danbury News*, were prominent examples.

Gregory, William, Governor of Rhode Island, born in Astoria, N. Y., Aug. 3, 1849; died in Wickford, R. I., Dec. 16, 1901. While he was a boy his parents removed to Westerly, R. I., where the son received a high-school education. When fifteen years old he entered a factory, and four years later became superintendent of a woolen mill at Auburn, R. I. He served in various mills till 1880, when he became general manager and agent for the A. T. Stewart Company in New York. Subsequently he returned to Rhode Island, and engaged in the manufacture of worsted goods in Wickford, in which business he continued till his death. He was president of the Wickford National Bank and chairman of the State Board of Charities and Correction. He represented North Kingston in the Legislature from 1888 to 1892; was State Senator, 1894 to 1898; was Lieutenant-Governor from 1898 till his inauguration as Governor in May, 1900. He was reelected in 1901 for the term beginning, by the new law, in January, 1902.

Griffiths, William N., actor, born in Brooklyn, in 1840; died in Washington, D. C., March 26, 1901. He removed to Baltimore in his youth, and there began his stage career shortly before the civil war. He played in old stock companies, including the old Forepaugh company of Philadelphia. He supported Lizzie Evans for three seasons, and later acted with Patti Rosa. In 1880 he played Sandy Liston, in *Christie Johnstone*, at the Windsor Theater, in support of Frank S. Chanfrau, and in the following year appeared with him in *Kit, the Arkansas Traveler*. In 1882 he played James Downey in *Chispa*, and in 1884

Dr. Valnois in *Outcast*. While playing with Patti Rosa in *Dolly Varden* in 1892-'93, Griffiths's acting attracted the attention of Richard Mansfield, who at once engaged him, and with whom he played almost without interruption till his death. With Mr. Mansfield he appeared as Montfleury in *Cyrano*, Mikola in *Rodion the Student*, William Dudgeon in *The Devil's Disciple*, Professor Sebastian in *The First Violin*, Pistol in *Henry V.*, and in many other parts.

Grissom, Arthur (Colfax), author and editor, born in Payson, Adams County, Ill., Jan. 21, 1869; died in New York city, Dec. 3, 1901. He was a son of the Rev. William Grissom, a minister of the Christian Church. He was graduated at Woodland College, Independence, Mo., in 1886. His first story was published when he was thirteen years old. He continued to contribute stories and poems to the *Youth's Companion*, *Golden Days*, and the illustrated weeklies, making his home, after his graduation, in Kansas City, where he founded, in October, 1888, the successful *Western Authors' and Artists' Club*. He removed to New York in 1889, and for some years was editorially connected with *Town Topics*, continuing his contributions to *Life*, *Truth*, *Leslie's Weekly*, and the monthlies, and for a short time editing the *Marine Journal* and a small periodical known as *Spirit*. In 1895 he founded the *Kansas City Independent*, a weekly paper. He returned to New York in 1900 to accept the editorship of the new magazine, the *Smart Set*, and he continued at its head till his death. Mr. Grissom's poetry was singularly faultless in form, and much of it was not lacking in true soul and spirit.

Guernsey, Mrs. Egbert, philanthropist, born in Newtown, Long Island, N. Y., in 1819; died in New York city, May 20, 1901. She was educated in private schools in New York city. In December, 1850, she married Dr. Egbert Guernsey. Mrs. Guernsey was one of the founders of the Hahnemann Hospital, and of the Guernsey Maternity Hospital, which was afterward merged with the Hahnemann. During the Spanish-American War she led the movement for furnishing aid to the widows and orphans of soldiers. She established an Episcopal church in Montclair, Fla., and another in Peekskill, N. Y., for colored people. She wrote a text-book on English grammar that is in use in the schools of several Western States.

Hale, Horace Morrison, educator, born in Hollis, N. H., March 6, 1833; died in Denver, Col., Oct. 24, 1901. The family removed to Rome, N. Y., in 1837, and four years later to North Bloomfield, N. Y. The father was a manufacturer of agricultural implements, and the son worked in the shop during his youth for nine months of the year. He was graduated at Union College in 1856, and after teaching for a year in West Bloomfield, he went to Nashville, Tenn., and was principal of the Howard School till June, 1861. He then removed to Detroit, Mich., where he studied law and was admitted to the bar in 1863. The next five years he spent in Colorado in search of health, returning to New York for his family in 1865, and making the three trips across the plains with a mule team. From 1868 till 1873 he was principal of the Central City, Col., public schools, and in the meantime was elected superintendent of schools for Gilpin County. In 1873 Gov. Elbert appointed him Superintendent of Public Instruction for Colorado. He was continued in this office until the admission of Colorado as a State in 1876. While superintendent for the Territory he framed the revised school law that is

still the fundamental school law of the State. In 1877 he was recalled to the head of the Central City schools. In 1878 he was elected by the Republican party a regent of the State University for six years. In 1882, and again in 1883, he was chosen mayor of Central City. In 1887 he was made president of Colorado State University, and he ably administered the office until his retirement in 1892.

Hamersley, James Hooker, born in New York city, Jan. 26, 1844; died at Garrisons-on-Hudson, Sept. 14, 1901. He was graduated with honors at Columbia University in 1865, and at Columbia Law School in 1867. For ten years he practised law, finally leaving it to devote his time to acting as cotrustee in the large estate left by his father, the late John William Hamersley. He was an extensive traveler and a well-known society and club man. He was the author of several poems, and contributed articles on politics and history. In 1877 he was nominated for the Assembly, but he withdrew in favor of his friend William W. Astor, who was elected by a large majority, largely through the efforts of Mr. Hamersley.

Hamilton, Morris R., journalist, born in Oxford Furnace, N. J., May 24, 1820; died in Trenton, N. J., Jan. 23, 1901. He was graduated at Princeton in 1839, and admitted to the bar in 1842. In 1849 he began a long newspaper career as editor of the Trenton True American, remaining its owner and editor till 1853. He was afterward on the staffs of the New York National Democrat, the Sussex Herald, the Camden Democrat, Newark Journal, Sussex Record, Kansas City News, Elizabeth Herald, and Philadelphia Record. He was elected State Librarian of New Jersey in 1884, and held the office fifteen years. He was known as Col. Hamilton from having served on the staff of Gov. Foot.

Hammond, Jane Nye, sculptor, born in New York city, March 3, 1857; died in Providence, R. I., Oct. 23, 1901. She spent a great part of her life in study abroad, returning to the United States to work in her studio with the little artist colony in the Grundman Studio Building in Boston, where she had been for more than five years. Afterward she visited Paris several times, spending another year working under Injalbert and Bartlett, studying at the Beaux Arts and attending the Sorbonne lectures. Three examples of her work were accepted at the Champs Élysées Salon. At the World's Fair in Chicago she was a member of the Board of Sculpture for Rhode Island, and exhibited several noteworthy pieces. She also exhibited in Boston, New York, and Providence. She was the representative woman sculptor of her State, and as such she was represented at the Pan-American Exposition, to which she sent, in response to the request of the commissioners, a portrait bust of Stephanie, the little daughter of Hugo Breul, which shows her art at its best.

Haney, Jesse, publisher, born in Nicetown, Pa., Feb. 19, 1829; died in New York city, Aug. 5, 1901. He was apprenticed to a printer in Philadelphia, but he afterward attended the Central High School in that city two years, and then taught in private schools. He removed to New York in 1852, and a year later joined Mr. Levison in the proprietorship of the New York Picayune, the first of the comic papers. Later they began the publication of Nick Nax. Levison died about 1856, and the publication of the Picayune ceased, but Haney continued the publication of Nick Nax till 1859, when it was succeeded by the Comic Monthly, which included

Frank Bellew on its staff, and numbered Thomas Nast, Sol Eytinge, and "Doesticks" Thompson among its contributors. In 1863 Mr. Haney enlisted in the 22d New York Volunteers and served till the end of the war. In 1866 he joined with William Burroughs in the publication of trade manuals and books of dialogues and recitations. They also published Haney's Journal. From 1885 till his retirement from active business in 1897 Mr. Haney was associated in the management of the American News Company.

Hardin, George A., jurist, born in Winfield, N. Y., Aug. 17, 1832; died in Little Falls, N. Y., April 16, 1901. He was graduated at Union College, and received the degree of LL. D. from Hamilton College. He was admitted to the bar in 1854, and practised law in Little Falls, N. Y., in the intervals of his public service. He was a Republican in politics, and was a member of the State Senate in 1861. He was elected justice of the Supreme Court for the 5th Judicial District in 1871, and served as a trial judge till 1879, when, on the reorganization of the General Term, Gov. Cleveland designated him presiding justice of the 4th Department. In the reorganization of the courts following the adoption of the Constitution in 1894 Gov. Morton designated him presiding justice of the Appellate Division for the 4th Department, which place he held till his retirement in 1899.

Harley, Orlando, singer, born in Pittsburg, Pa., in 1856; died in Margate, England, Aug. 28, 1901. He studied in the United States and in Europe, and was accounted one of the most successful American grand-opera tenors. He appeared during the last fifteen years of his life with many of the famous prima donnas.

Harris, William H., naval officer, born in Charlestown, Mass., March 23, 1840; died in Boston, Jan. 5, 1901. He was appointed a 3d assistant engineer in 1861, and assigned to the gunboat Sagamore, then with the Eastern Gulf squadron. In 1863 he was made 2d assistant engineer and assigned to the steam frigate Niagara, on which he served till 1865. He spent one year in the Naval Academy, and then was made 1st assistant engineer. From 1867 till 1870 he served on the Piscataqua, then with the Asiatic squadron; during 1871 and 1872 he was stationed at the Boston Navy-Yard, and from 1873 till 1876 did special duty on the Despatch, on the North Atlantic station. In 1878 and 1879 he was again assigned to the Boston Navy-Yard, and the following year did special duty. From 1881 to 1883 he was on the Galena, then on the European station, and from 1884 till 1889 served in the Bureau of Steam Engineering. Dec. 27, 1883, he was made chief engineer. He was on the Atlanta, in the squadron of evolution, in 1889 and 1890. He was retired June 30, 1900, his last active duty being at the Portsmouth Navy-Yard, to which he was assigned in March, 1899.

Harrison, Benjamin, twenty-third President of the United States (for portrait and biography, see Annual Cyclopædia for 1888), born in North Bend, Ohio, Aug. 20, 1833; died in Indianapolis, Ind., March 13, 1901. He was a son of John Scott Harrison, a grandson of President William Henry Harrison, and a great-grandson of Benjamin Harrison, a signer of the Declaration of Independence. His father was a farmer, and he received his first education in a log schoolhouse facing the Ohio river near the mouth of the Big Miami. Later he was sent to Farmer's College, near Cincinnati, where he remained two years, leaving to enter the junior class at Miami University, Oxford, Ohio. There he made a good

record as a student and a debater and was graduated in 1852. He studied law and was admitted to the bar in 1853. In that year he married Miss Caroline L. Scott, a daughter of the Rev. John W. Scott, principal of a seminary for young ladies in Oxford. In 1854 he removed to Indianapolis and practised law. He began his work as a Republican speaker in the campaign of 1856. In October, 1860, he was elected reporter of the Supreme Court of the State. In August, 1862, he was commissioned a 2d lieutenant of volunteers, recruited Company A of the 70th Indiana Infantry, and upon the reorganization of the regiment, about thirty days later, was commissioned its colonel. He brought the regiment to a high degree of efficiency. He served under Gen. Buell at Bowling Green and Russellville, Ky., and afterward on a long term of guard-duty against guerrillas, protecting railroads in the West. His regiment was attached to the 20th Corps under Gen. Joseph Hooker in the campaign from Chattanooga to Atlanta. He served with special distinction at the battle of Peach Tree Creek, where he commanded a brigade, as he also did at the battle of Nashville. From September to November, 1864, he was on recruiting duty in Indiana. The winter of 1864 he spent with Gen. George H. Thomas in Tennessee, but early in the spring he resumed command of his brigade and was present at the surrender of the Confederate forces under Johnston at Durham Station, N. C. He took part in the grand review at Washington, and was mustered out June 8, 1865. He was brevetted brigadier-general, to date from Jan. 23, 1865, for ability and manifest energy and gallantry in command of his brigade. While he was still at the front, in October, 1864, he was reelected reporter of the Supreme Court. In 1876 he was the Republican candidate for Governor of Indiana, but failed of election. He was appointed a member of the Mississippi River Commission in 1879, and in 1880 was chairman of the Indiana delegates to the Republican National Convention. In the following winter he was elected to the United States Senate, and after his election was offered a place in President Garfield's Cabinet, which he declined. He took his seat in the Senate, March 4, 1881, and served till 1887, during which time he was known as one of the strongest debaters in that body. As president of the Committee on Territories he was persistent in his demand for the admission to statehood of the Dakotas, Montana, Washington, and Idaho, all of which afterward became States through measures signed by him as President. He also spoke for the restriction of Chinese immigration and against the importation of contract labor, and became known as the advocate of protective duties, civil-service reform, and restoration of the United States navy. He was a delegate to the National Convention of 1884, where his name was mentioned for the presidency. At the expiration of his term in the Senate he received the votes of the Republican minority in the Indiana Legislature for reelection. He was nominated for the presidency in 1888 on a protective-tariff platform, and after an exciting campaign, during which he made many speeches, he was elected. He received 233 electoral votes, against 168 for Mr. Cleveland. President Harrison was inaugurated March 4, 1889. His administration was notable for its defense of American interests abroad and for its promotion of American industry and prosperity at home. Its most notable events were the passage of the McKinley bill, the suppression of the Louisiana lottery, the adoption of the reciprocity policy, the extension of the new navy, the pro-

motion of civil-service reform, the arrangement of an international monetary conference, the organization of the Bering Sea arbitration, the difficulty with Chile, and the settlement of the Samoan troubles. Mr. Harrison was nominated for reelection in 1892, and was again opposed by Mr. Cleveland. The election resulted in Mr. Cleveland's election by 276 electoral votes to Mr. Harrison's 145. After retiring from the presidency Mr. Harrison returned to the practise of law, as he had always done in the short intervals of his long and busy public career. In 1893-'94 he delivered a course of lectures on constitutional law before the students of Stanford University. In 1899 he appeared as counsel in the Anglo-Venezuelan Boundary Arbitration Commission, finishing his argument for Venezuela in Paris on Sept. 27. President McKinley appointed him a member for the United States of the Peace Conference held at The Hague in 1899, and he was made a member of the International Board of Arbitration. He devoted much time and energy to church and philanthropic work; was several times a delegate to the General Assembly of the Presbyterian Church, and was a member of the Committee on Creed Revision. Mrs. Harrison died while her husband was President. On April 6, 1896, Mr. Harrison married her niece, Mrs. Mary Scott Lord Dimmock, in New York city. He was the author of *This Country of Ours* (1897). His life has been written by Gen. Lew Wallace (1888). A collection of his speeches, edited by Charles Hedges, appeared in 1888, and another in 1892, and a collection of his magazine articles in 1901.

Harrison, Henry Baldwin, ex-Governor of Connecticut, born in New Haven, Conn., Sept. 11, 1821; died there, Oct. 29, 1901. He was graduated at Yale as the valedictorian of the class of 1846. He studied at Yale Law School, and in 1848 was admitted to the bar. He won a high reputation as a jury lawyer. He was an ardent Henry Clay Whig, and in 1854 he was sent to the Connecticut Senate, where he drafted the Personal Liberty bill that tended to nullify the Fugitive-Slave law in Connecticut. Under this measure the pretending that a free person was a slave was severely punishable. He was associated with the Free-Soil party till it was merged into the Republican party, and he was one of the organizers of the Republican party in his State in 1856, and was that year its candidate for Lieutenant-Governor. In 1865 he represented New Haven in the Assembly, and was instrumental, through a famous speech, in erasing the word "white" from the State Constitution and allowing the negroes to vote. In 1872 he was a candidate for Governor, and was defeated through dissensions in his party. In 1873 and 1883 he was again a Representative, and in 1883 was Speaker. In 1878 he was a candidate for the United States Senate, but he was defeated by O. H. Platt. In 1885 he was elected Governor.

Hart, James McDougall, artist, born in Kilmarnock, Scotland, May 10, 1828; died in Brooklyn, N. Y., Oct. 25, 1901. He was taken by his parents to the United States in 1830, and he afterward entered the shop of a coachmaker in Albany, N. Y., where he worked with his brother as a decorator. He showed a fondness for landscape and animal painting, and the best of his later work is in these fields. He studied with Schirmer in Düsseldorf from 1850 to 1853, and in the latter year established a studio in Albany, where he painted and taught till his removal to New York city in 1857. In 1857 he was elected an associate of the National Academy of Design, and in 1859 made an academician. He served in its council

for many years, and for three years was its vice-president. He received a centennial medal at Philadelphia in 1876, a gold medal at Mechanical Institute, Boston, and a medal at the Paris Exposition of 1889. His pictures include Cattle going Home; Moonrise in the Adirondaeks; Autumn in the Woods; Sunday Afternoon in Berkshire County; Winter on the Adirondaeks (N. A., 1871); Peaceful Homes (1872); In the Orchard, and A Breezy Day on the Road (1874). His Indian Summer and Summer Memory of Berkshire were at the Paris Exposition of 1878. Drove at the Ford is in the Corcoran Gallery in Washington; At the Brookside, in the Metropolitan Museum of Art, New York city; In the Autumn Woods, in Sayles Memorial Hall, Providence, R. I.

Hatch, John Porter, soldier, born in Oswego, N. Y., Jan. 9, 1822; died in New York city, April 12, 1901. He was a descendant of Thomas Hatch, who came to the New World about 1634, and was a great-grandson of Major Moses Porter, who served in the battle of Saratoga. He was graduated at West Point in 1845, and entered the 3d Infantry, serving with that regiment during the Mexican War at Corpus Christi and at Palo Alto, after which he took part in the campaign under Gen. Scott, participating in the battles at Vera Cruz, Contreras, and Churubusco, and in the taking of the city of Mexico, receiving three brevets for gallantry. He became adjutant of the Mounted Rifles, Nov. 1, 1847. At the close of the war with Mexico, he accompanied his regiment on its march from the Missouri river to Oregon, where he served as acting assistant adjutant of the 11th Military Department, and explored the country from Puget Sound to Klamath river. He was sent in the autumn of 1850 to Washington city with despatches from the Pacific, but in 1851 rejoined his regiment, and early in 1852 accompanied it to Texas, where he served two years in campaigns against the Indians. Failing health led to his being ordered to recruiting service until 1856, when he again joined his regiment, and until 1861 was in New Mexico, during which time he participated in the campaigns against the Gila Apaches and the Navajos, and explored the route for a railway from the Rio Grande to the western border of Missouri. He was promoted to captain, Oct. 13, 1860. Soon after the opening of the civil war he was made brigadier-general of volunteers, and he led a brigade at the first battle of Bull Run. He then received command of the cavalry under Gen. Banks, and served under that commander during the campaign in the Shenandoah valley, participating in the battle of Winchester, and covered the retreat. At the second battle of Bull Run he led a charge, and was wounded in the head, but he recovered in time to participate in the battle of South Mountain, where he commanded a division, and was shot in the leg while leading his men, after two horses had been killed under him. For gallantry at this battle he received a medal of honor. While convalescing he served on court-martial duty, had charge of the draft rendezvous in Philadelphia, and organized the cavalry depot in St. Louis, receiving his majority on Oct. 27, 1863. Early in 1864 he was ordered to the Department of the South, where he had the coast division, and cooperated with Gen. Sherman in his march to the sea, participating in the operations against Charleston, to the command of which city he was assigned after its fall. He received the brevet of major-general of volunteers at the close of the civil war, and after being mustered out of that service he returned to the 4th Cavalry, with which he served in Texas, Indian Territory, Montana, and elsewhere. He

was promoted to colonel of the 2d Cavalry in June, 1881, and was retired by action of law on Jan. 9, 1886, having gained a reputation as one of the ablest of cavalry commanders, noted for always having a keen edge upon his sabers.

Haverly, John H., theatrical manager, born in Pennsylvania in 1836; died in Salt Lake City, Utah, Sept. 28, 1901. In his youth he was apprenticed to a shoemaker, but he ran away and became a train-boy on the Pennsylvania Railroad. He soon drifted into theatrical work as door-tender, box-office man, and then as treasurer, and at the age of twenty-one embarked on his own account as the manager of a variety company in Toledo, Ohio. In 1862 the Haverly and Cool Burgess Minstrels were organized. In 1866 Mr. Haverly purchased Cool Burgess's interest and organized the first J. H. Haverly Minstrels. In 1878 he organized the United Mastodon Minstrels, the largest company that had been got together up to that time. They met with great success in the United States, and later played a long and successful engagement at Her Majesty's Theater, London. Two years afterward Haverly's Minstrels, numbering more than 100 people, at Drury Lane Theater, and in 1883, Haverly's Colored Minstrels, with 115 people, repeated in London the success of this earlier company. In partnership with Samuel Colville, Mr. Haverly arranged the great scenic production Michael Strogoff at Booth's Theater. He successfully managed many traveling companies in addition to the minstrels that made him famous, and established the first large theater circuit in the United States. At one time he controlled and managed the Broad Street and Chestnut Street Theaters, in Philadelphia; the Bush Street, Alhambra, and California Theaters, in San Francisco; the New Chicago, Hooley's, Adelphi, and Columbia Theaters, in Chicago; Niblo's Garden, Fifth Avenue Theater, and Fourteenth Street Theater, in New York; and Haverly's Brooklyn Theater. Though eminently successful in his amusement ventures, Mr. Haverly lost several fortunes in Wall Street speculation. In 1898 he became a bankrupt. Later he devoted his attentions to mining in Colorado and Utah.

Hay, Adelbert Stone, diplomat, born in Cleveland, Ohio, Nov. 1, 1876; died in New Haven, Conn., June 23, 1901. He was the eldest son of Secretary of State John Hay, and was graduated at Yale in 1898. After his graduation he spent a few months in London as secretary to the ambassador, returning to Washington when his father was called to the Cabinet. In December, 1899, young Hay was appointed United States consul to Pretoria, to succeed Consul Macrum. He left Pretoria in November, 1900, on leave of absence from the State Department, returning to Washington by way of London, and soon after his arrival in the United States resigned his office. Shortly before his death he had accepted the appointment as assistant secretary to President McKinley, and he was to have entered upon his duties July 1. He was killed by falling accidentally from a window.

Hayden, Charles Henry, artist, born in Plymouth, Mass., Aug. 4, 1856; died in Belmont, Mass., Aug. 4, 1901. He studied at the Museum of Fine Arts in Boston, and later with Boulanger, Collin, and Lefebvre in Paris. His work received honorable mention at the Paris Exposition in 1889, and among other awards he received the Jordan prize of \$1,500 in Boston in 1895, a silver medal at the Atlanta Exposition in 1895, and a bronze medal at the Paris Exposition in 1900. His paintings were chiefly landscape and animal studies.

Hazen, Abraham D., Third Assistant Postmaster-General, born in Northampton County, Pennsylvania, Feb. 24, 1841; died in Washington, D. C., Dec. 3, 1901. He was graduated at Lafayette College in 1863, and received an appointment in the United States Department of Agriculture. Nearly his entire life after that time was spent in the Government service, although he was a graduate of the law department of the Columbian University, in Washington, and during a short term of retirement from public life practised law in that city. In 1866 he was transferred to the Post-Office Department, and rose by gradual promotion to be the principal clerk of the stamp division, and in 1874, when Congress, on the recommendation of the Postmaster-General, created the office of Chief of the Stamp Division, he was immediately appointed to the place. He was instrumental in systematizing the postal-card system and in the introduction of official stamps for the executive departments. He also served as a member of the Civil-Service Examining Board for the Post-Office Department. President Hayes made him Third Assistant Postmaster-General. In 1884 he issued, with the aid of clerks in his department, a pamphlet entitled *The Post-Office Before and Since 1860*, under Democratic and Republican Administrations, on nearly every page of which the Democratic party was charged with incompetency and dishonesty. He tendered his resignation upon the advent of the Cleveland administration, but was retained more than two years because of his knowledge of the business of his office, and then it was accepted only upon his personal solicitation. He was reappointed by President Harrison in March, 1889. At the Columbian Exposition in 1893 he was the representative of the Post-Office Department on the Board of Management and Control of Department Exhibits.

Henderson, Alexander, naval officer, born in Washington, D. C., July 12, 1832; died in Yonkers, N. Y., Jan. 12, 1901. He entered the navy as a third assistant engineer in February, 1851. He was in Commodore Perry's fleet that visited the Orient in 1852-'55, served in the Mediterranean in 1856-'57, and took part in the Paraguay expedition in 1858. He again served in the Mediterranean in 1859 and 1860, and in 1861 he returned to the United States and served in the National fleet through the civil war. Afterward he was successively the fleet engineer of the Asiatic and the European stations. In 1882 Mr. Henderson was made engineering head of the Naval Advisory Board, and the engines of the first vessels of the new navy were designed by him and built under his supervision. When the work of the Advisory Board was finished, in 1889, he became chief engineer of the Boston Navy-Yard. He was retired with the rank of commodore in July, 1894. At the outbreak of the Spanish-American War he volunteered, and served till its close as fleet engineer of the auxiliary navy.

Henry, Benjamin C., clergyman, born near Pittsburg, Pa., in 1850; died in Sharpsburg, Pa., June 21, 1901. He was graduated at Princeton in 1870, and at the Theological Seminary there in 1873. Soon after leaving the seminary he went to China, where for twenty-six years he labored as a missionary, retiring in 1899 on account of failing health. While on a visit to the United States, in 1884, he advocated the establishment of a Christian college in southern China, and he was subsequently honorary president of one that was founded as the result of his efforts. Dr. Henry was the author of *The Cross and the Dragon*, and *Ling-Nan*; or, *Interior Views of Southern China*.

Henschel, Mrs. Georg (Lillian June Bailey), singer, born in Columbus, Ohio, in 1860; died in London, England, Nov. 7, 1901. She went to Boston in 1876, and studied there with Mme. Rudersdoff and her uncle, Charles Hayden. She made her first public appearance in March, 1877, at a concert in Boston, and afterward she sang in Boston, Philadelphia, and New York. In 1878 she studied in Paris with Mme. Viardot-Garcia, and the following year went to London to become a pupil of Georg Henschel. In April, 1879, she made her appearance in London at one of the Philharmonic Society's concerts. She immediately became a great favorite, singing at the Monday popular concerts, the famous Richter concerts, the Crystal Palace concerts, and the great festivals in Germany, Holland, Scotland, and England. She returned to the United States in 1880, and sang at the Worcester festival in September. In 1881 she married Georg Henschel, the composer, singer, and conductor, with whom she gave in Boston during the following winter a series of recitals.

Herne, James A., actor, manager, and playwright, born in Troy, N. Y., Feb. 1, 1840; died in New York city, June 2, 1901. He was educated in the public schools, and made his first appearance as an actor with a small traveling company, with which he remained for a few weeks. For two seasons following 1859 he played with the Adelphi Theater stock company, Troy, N. Y., appearing first as George Shelby in Uncle Tom's Cabin, and afterward in Shakespearian and other rôles; then for three seasons he was at the Holiday Street Theater, in Baltimore. When Ford's Theater was opened in Washington, Mr. Herne was chosen to deliver the opening address. He was next leading man for Susan Dennin, and with her went to California, where in July, 1866, he married Helen Western, and for three seasons following traveled with her, playing leading rôles in support of Lucille Western. During James Fisk's career as theatrical manager, Mr. Herne held under him the place of producer at the Grand Opera-House, New York, at a salary of \$10,000 a year. After Fisk's death Mr. Herne returned to California, and in San Francisco met with success as an actor-manager. In 1878 he married Katherine Corcoran, and soon afterward determined to make his first venture as a star. David Belasco suggested that he write his own play, and acting upon this suggestion Mr. Herne produced his *Hearts of Oak*, which achieved immediate success. Within the three years following he wrote *Drifting Apart*, *The Minutemen of '76*, and *Margaret Fleming*. All were well received, but none reached the popular success of *Hearts of Oak*. Margaret Fleming is considered one of the greatest plays written by an American. In 1883 and 1884 he wrote his most successful play, *Shore Acres*. It was first performed under the title of *The Hawthornes*, in Chicago, in 1892, and was not a success; later it was produced at the Boston Museum under its better-known title. Mr. Herne played it almost continuously till 1899, when he brought out *The Rev. Griffith Davenport*, his dramatization of Helen Gardner's novel *An Unofficial Patriot*. The play was not a pecuniary success. In 1900 Mr. Herne wrote and produced *Sag Harbor*, which was well received in New York and the smaller cities of the country. During the later years of his life he was greatly interested in sociological studies, and was often called upon to address important meetings. His plays and his speeches were characterized by a gentle attitude toward humanity, and his influence for a kindlier sympathy with its mistakes and its misfortunes.

Hertzog, J. G., educator, born in Bechtheim, Germany, Jan. 2, 1831; died in Philadelphia, Pa., Sept. 12, 1901. He studied in the Universities of Mannheim and Mainz, removed to the United States in 1856, and was first employed on a German newspaper in New York city. During the years 1860 and 1864 he was a teacher of languages in La Salle College, Philadelphia, and at the same time Professor of German in Eden Hall, Tonesdale. In 1877 he established a private school, which he conducted till the time of his death. He published a volume of his poems.

Hines, Cyrus C., jurist, born in Sandy Hill, Washington County, N. Y., in 1840; died in Indianapolis, Ind., June 5, 1901. He removed to Indianapolis in 1860, and at the outbreak of the civil war enlisted as a private in the 11th Indiana Infantry, but soon was appointed an aid to Gen. T. A. Morris. Afterward he became major of the 24th Indiana, and later was made colonel of the 57th Indiana Regiment. He was severely wounded at the battle of Stone River, and in 1863 he retired from the service on account of disability from wounds. He practised law in Indianapolis, and in 1866 was elected circuit judge of Hendricks, Marion, Morgan, and Johnson Counties. He retired from active professional life in 1887. He was a founder of the Indianapolis Public Library.

Hinton, Richard Josiah, journalist, born in London, England, in 1830; died there, Dec. 20, 1901. He removed to the United States in the year 1851, and at first worked at his father's trade of mason. Later he became a topographical engineer, and in turn a journalist, editor, lawyer, and author. He became associated with John Brown in Kansas in 1856, and was with Brown at Harpers Ferry, where he narrowly escaped death. Afterward he traveled through the South in the character of an English sympathizer. He made friends with the officers of the Confederate army, saw Jefferson Davis inaugurated President of the Confederacy, and took drawings of many camps and fortifications. He was caught once in Richmond, but escaped through the assistance of a negro. He served through the civil war, and he was one of the first officers to recruit negro troops. Col. Hinton was a brigadier-general of Cuban cavalry with Antonio Maceo in the uprising of 1871. He served at different times as correspondent of the Boston Traveller and the Chicago Tribune, and succeeded Henry George as editor of the San Francisco Post. In 1886 he was employed by the National Bureau of Labor as an expert on labor matters, and he wrote and spoke a great deal on labor questions. He was an expert on the subject of irrigation, and wrote much concerning it. He was author of English Radical Leaders (1875), Handbook of Arizona (1878), and Life of John Brown, and he performed the difficult task of collecting the poems of Richard Realf and writing his life (1898).

Hittell, John Shertzer, author, born in Jonestown, Pa., Dec. 25, 1825; died in San Francisco, Cal., March 8, 1901. He was graduated at Miami University in 1843, studied law, removed to Ottawa, Ill., in 1848, where he taught school, and in the spring of 1849 began the journey overland to California, walking 1,500 miles. After 1853 he was engaged for the greater part of his life in journalism in San Francisco. He published a History of the Mental Growth of Mankind in Ancient Times; Spirit of the Papacy; The Evidences against Christianity (1855); History of San Francisco (1878); The Resources of California (1860); Brief History of Culture (1875); Som-

nambulism and Cramp, translated from Baron Reichenbach's Sensitive Men; and The Mining in the Pacific States.

Hobson, Edward Henry, soldier, born in Greensburg, Ky., July 11, 1825; died in Greensburg, Ky., Sept. 14, 1901. He was a member of the Greensburg and Danville (Ky.) militia. In 1846 he enlisted in the 2d Kentucky Volunteers and was made a 1st lieutenant. He went through the Mexican War and was mustered out in June, 1847. He then returned to his business interests in Greensburg. In 1861 he organized and became colonel of the 15th Kentucky (National) Volunteers. He joined Gen. Buell's army in February, 1862, and was made brigadier-general for gallantry at the head of his regiment in the battle of Shiloh. Before he received his commission he took part in the siege of Corinth. He was present at Perryville, and at Mumfordsville, Ky., he protected the lines of communication, and instructed about 10,000 new troops. In command of the southern division of Kentucky troops, at Marrowbone, Ky., he watched the movements of John Morgan's raiders, and after a slight engagement he pursued Morgan through Kentucky, Indiana, and Ohio, and finally captured him. Gen. Hobson was appointed to the command of Gen. Burnside's cavalry, but owing to failing health was not able to serve. During the latter part of the war he served in repelling raids at Lexington, Ky. His commission as major-general was ready for the President's signature when Lincoln was assassinated. Gen. Hobson was mustered out in September, 1865, and afterward engaged in banking in Greensburg, Ky., and in railroad business. He was president of the Southern division of the Chesapeake and Ohio Railway. He was president of the Mexican War Veterans' Association, and in 1880 was vice-president of the Republican National Convention.

Hodge, John Aspinwall, clergyman, born in Philadelphia, Pa., in 1831; died at Lincoln University, Chester County, Pennsylvania, June 23, 1901. He was graduated at the University of Pennsylvania in 1851, and at Princeton Theological Seminary in 1856. He was pastor of the First Presbyterian Church, in Mauch Chunk, Pa., from 1856 till 1865, when he was called to the First Presbyterian Church of Hartford, Conn., where he remained till compelled by failing health to resign in 1892. In 1888 he visited Brazil in behalf of the Presbyterian Board of Foreign Missions, and on his return to this country he was elected a trustee of the college in São Paulo, Brazil, supported by the Presbyterian board. Dr. Hodge became interested in the Liberian Colonization Society shortly after the civil war, and after a year's rest in 1893 accepted the chair of English Bible and Church Polity in Lincoln University, which was founded before the war for the purpose of educating negro missionaries for Africa. The graduates now go principally to the Southern States. Dr. Hodge was the author of What is Presbyterian Law (1882); Theology of the Shorter Catechism (1888); Recognition after Death (1889); and The Ruling Elder at Work (1892).

Hoffman, Edward Morris, soldier, born in Elmira, N. Y., Jan. 14, 1857; died in Albany, N. Y., May 15, 1901. He enlisted in the New York National Guard, Oct. 10, 1874, in the 110th Battalion, receiving a 2d lieutenant's commission, April 7, 1877. He was made 1st lieutenant of the 30th Separate Company, Nov. 29, 1881, and Dec. 6, 1884, he became a lieutenant-colonel and assistant adjutant-general of the 7th Brigade. He was appointed inspector-general, Dec. 11, 1896, and

reappointed Jan. 1, 1897. Gen. Hoffman was appointed by Gov. Roosevelt as adjutant-general, Jan. 1, 1900, and was reappointed by Gov. Odell, Jan. 1, 1901. He was one of the best known and most popular officers of the National Guard. He commanded the 3d New York Volunteers in the war with Spain. He also saw service in the great railroad riots of July, 1877, and at the switchmen's strike in Buffalo in 1892.

Hogan, John Baptist, clergyman, born at Bodyke, County Clare, Ireland, June 24, 1839; died in Paris, France, Sept. 30, 1901. At the age of seventeen he went to France to study for the Roman Catholic priesthood. In 1852 he was ordained, and, becoming a member of the Sulpician community, taught in the departments of dogmatic and moral theology until 1884. In that year he was installed director of St. John's Theological Seminary, at Brighton, Mass. In 1889 he was selected by the governing board of archbishops for the head of the divinity school of the Catholic university in Washington city. He remained there five years, when he returned to his former post at Brighton. Under Abbé Hogan's management the Brighton seminary attained a high standing, and students were sent to it from all parts of the United States. His published works include Clerical Studies and Daily Thoughts for Priests.

Holbrook, Zephaniah Swift, author, born in Berea, Ohio, Sept. 16, 1847; died in Brookline, Mass., Oct. 23, 1901. He studied at Yale, and after his graduation at the Yale Theological Seminary was pastor of the Oakland Congregational Church of Chicago, and was associate editor of the Alliance. In 1881 he engaged in business in Chicago, and in 1898 removed to Boston. He was sociological editor of the *Bibliotheca Sacra*, and a lecturer and a contributor to literary publications. He published *Lessons on the Homestead Troubles*, *American Republic* and *the Debs Insurrection*, and *Christian Sociology* and other works. Although he was not graduated with his class at Yale, he was made an honorary graduate and received the degree of A. M.

Holman, David Shepherd, inventor, born in Milo, Me., in 1826; died in Bangor, Me., May 13, 1901. Prof. Holman, although to a great extent self-educated, and without the advantage of a scientific training, was a skilful microscopist, and is widely known through the Holman life-slides and other accessories to the microscope. He became connected with the Franklin Institute, Philadelphia, in 1870, and one year later was made actuary of the society, which post he held till 1885. In this time he put forward many inventions, lectured, and, foreseeing the great advantages of the typewriting machine, established a successful school of stenography and typewriting at the institute. He afterward taught stenography and typewriting at Girard College. After leaving Franklin Institute he was employed in the oil-testing laboratories of the Atlantic Refining Company, and while there devised his "viscosimeter." He was a member of the Academy of Natural Sciences.

Holmes, Nathaniel, jurist, born in Peterborough, N. H., July 2, 1814; died in Cambridge, Mass., Feb. 26, 1901. He was graduated at Harvard University in 1837, and was admitted to the Boston bar in 1839. Beginning practise in St. Louis, he remained there until 1868, during which time he had been circuit attorney for the city and county of St. Louis, counselor of the North Missouri Railroad, and justice of the Supreme Court of Missouri, 1865-'68. After holding the Royall professorship of Law at Harvard, 1868-

72, he resumed practise in St. Louis, retiring finally in 1883, since which time he had lived in retirement in Cambridge. He was an ardent supporter of the Baconian theory of the authorship of Shakespeare's plays, and his discussion of the subject is altogether the ablest presentment of the Baconian side of the question. His published works are *The Authorship of Shakespeare* (1866 and 1886) and *Realistic Idealism in Philosophy Itself* (1888).

Hooker, John, lawyer, born in Farmington, Conn., April 19, 1816; died in Hartford, Conn., Feb. 12, 1901. He was graduated at Yale in 1837, studied at the Yale Law School, and was admitted to the bar. From 1858 to 1894 he was reporter of judicial decisions by the Supreme Court of Connecticut. The greater part of the Connecticut law reports were prepared and published by him. He reported under 7 chief justices. Mr. Hooker was one of the original antislavery men of Connecticut. He was a member of the Legislature in 1850. In 1841 he married Isabella Beecher, daughter of the Rev. Lyman Beecher and sister of Henry Ward Beecher and of Harriet Beecher Stowe. Mrs. Hooker is widely known as a woman suffragist, and her husband was in full sympathy with the movement. He published his *Reminiscences* in 1899.

Hopkins, Samuel Miles, educator, born in Geneseo, N. Y., Aug. 8, 1813; died in Auburn, N. Y., Oct. 29, 1901. He was graduated at Amherst College in 1832, studied at Auburn and Princeton Theological Seminaries, and was ordained in the Presbyterian ministry in 1840. After brief pastorates in Corning, Fredonia, and East Avon, N. Y., he was appointed Professor of Church History and Ecclesiastical Polity in Auburn Theological Seminary. He remained in active service till 1893, when he was made professor emeritus. In 1866 he was moderator of the Presbyterian General Assembly. He published *A Manual of Church Polity* in 1878, and later a *Liturgy and Book of Common Prayer*, as a contribution of his interest in the movement to introduce precomposed forms of worship into the Presbyterian Church.

Houghton, Henry Clarke, physician, born in Roxbury, Mass., Jan. 22, 1837; died in New York city, Dec. 1, 1901. He was graduated at Bridgewater Normal School in 1859, and from 1861 to 1863 he taught natural sciences in Yarmouth, Me., Academy. He received his medical degree at New York University in 1867. He was resident physician to the Five Points House of Industry from 1867 to 1869; Professor of Physiology in the New York Homeopathic Hospital from 1868 to 1870; and Professor of Otolaryngology from 1870 till his death. He was Professor of Physiology in the New York College for Women from 1869 to 1872. In 1868 he was appointed surgeon in the New York Ophthalmic and Aural Institute, and later became its dean. Dr. Houghton was noted as a specialist in diseases of the eye and the ear, and he was an officer in many homeopathic medical societies. He was the author of *Lectures on Clinical Otolaryngology*, and of many papers relating to his work as an oculist and aurist.

House, Edward Howard, journalist, born in Boston, Mass., Sept. 5, 1836; died in Tokio, Japan, Dec. 18, 1901. He was largely self-educated; studied music from 1851 to 1854, composing orchestral pieces; and worked at the same time as a bank-note engraver. He was part proprietor, associate editor, and musical and dramatic critic of the *Boston Courier* from 1854 till 1858; special correspondent, associate editor, dramatic and musical critic of the *New York Tribune* from

1859 till 1873; on the editorial staff of the New York Times in 1870; and from 1874 to 1876 correspondent from Japan and Formosa of the New York Herald. After 1870 he resided chiefly in Japan, where he devoted his energies especially to the defense of Japan's international rights. He was Professor of English in the University of Tokio from 1871 to 1873. He established and conducted, from 1877 till 1880, the Tokio Times, a weekly periodical. In 1900 he was appointed director of the Imperial Court Orchestra, and in that year prepared and conducted the first orchestral concerts given in Japan. Besides many magazine articles, he published *The Simonoseki Affair* (1874); *The Kagosima Affair* (1874); *The Japanese Expedition to Formosa* (1875); *Japanese Episodes* (1882); *Yone Santo*; and *The Midnight Warning*.

Howgate, Henry W., soldier, born in England; died in Washington, D. C., June 1, 1901. During the civil war he entered the National army as 2d lieutenant, 22d Michigan Volunteers, Aug. 14, 1862; was promoted 1st lieutenant, Jan. 17, 1863; and was assigned to the signal corps as 1st lieutenant, March 3, 1863. He was brevetted captain of volunteers, March 13, 1865, for gallant and meritorious service in the battle of Chickamauga, and major of volunteers for the Atlanta campaign; he was mustered out June 20, 1866. He then entered the regular army as 2d lieutenant, 20th Infantry, Oct. 22, 1867; brevetted 1st lieutenant and captain, Oct. 22, 1867; unassigned, July 28, 1869; reassigned to 20th Infantry, Aug. 3, 1870; promoted 1st lieutenant, Aug. 4, 1875; and resigned, Dec. 18, 1880. For some years previous to his resignation he had been disbursing officer of the United States Signal Service Bureau in Washington. When Gen. Hazen assumed charge of the bureau in 1881 he made an investigation of certain shortages in the accounts of Howgate, which resulted in his arrest, Aug. 16, 1881, on the charge of embezzling \$90,000. April 13, 1882, he escaped from the charge of a deputy marshal, and for thirteen years was not caught. He was discovered in New York, Sept. 26, 1894, taken to Washington, acquitted on one trial, and finally convicted and sentenced, Nov. 14, 1895, to eight years' imprisonment. The amount of his shortage was more than \$350,000.

Howland, Weston, oil-refiner, born in New Bedford, Mass., in 1816; died in Fairhaven, Mass., June 16, 1901. Beginning as a cabin-boy on a merchant ship, he followed the sea during his early life, rising through successive grades to the command of a vessel. After quitting the sea he became a ship-chandler and commission merchant, continuing in this business till he began the manufacture of kerosene oil. In 1860 he was secretary of the New Bedford Coal-Oil Company, a concern that by a crude process supplied a marketable form of petroleum. At this time a chemist of Schieffelin Brothers, of New York, suggested to Mr. Howland that he should experiment with a view to placing on the market a more salable illuminator than the coal-oil of the day. Petroleum, though it had been known for years, never had been refined. At that time there were a few wells in Pennsylvania, and Schieffelin Brothers had about 2,000 barrels of the oil on hand. Mr. Howland decided to make an attempt at refining the oil, and a barrel was shipped to him. His first attempt at distillation, with a large kettle from his kitchen as a condenser, was successful, but the product was thick, muddy, vile-smelling, and unrefined. A milk-pan was the next piece of improvised apparatus, and he went on experimenting with alkalis and water. The result was

a foggy mixture. Discouraged, he put the oil in a pan with the oil and alkalis in his back and left it, and when he went back he found it had been solved. The barn door had been open, and the beams of the afternoon sun had completed the process. That evening he lighted three lamps—one with the coal-oil, one by the New Bedford Company, and one by the Downer's oil, and a third with his refined petroleum. He lighted them and called in his neighbors, who at once selected the petroleum-filled lamp, giving the largest and brightest flame. Convinced that this was the illuminating oil of the future, Mr. Howland at once purchased the oil works on Fish island and began to manufacture for the market. He purchased 1,500 barrels of oil, at 25 cents a gallon, and sold the refined oil at 75 cents a gallon as fast as he could manufacture it. The Downers attempted to block him by purchasing all the petroleum on the market, but Mr. Howland sent an agent to the oil-fields in November, 1860, and contracted for the entire product. Two months later his factory was destroyed by fire as the result of an explosion, in which two men were killed. Mr. Howland covered the machinery with old sails, that his rivals might not copy it, and began rebuilding the following day. Soon other refineries were built, and at length the nucleus of the present Standard Oil Company began to make it difficult for competitors to do business, and Mr. Howland, though one of the last to feel its effects, was finally forced out of the manufacture. He was a member of the New Bedford Board of Aldermen in 1866, and from 1886 to 1890 was collector of the port of New Bedford.

Hoyt, Benjamin Carleton, banker, founder of St. Joseph, Mich., born in Sandown, N. H., Jan. 26, 1807; died in St. Joseph, Mich., March 27, 1901. He went west when he was twenty-one years old, and in 1829 erected a log store-building at the present foot of State Street in St. Joseph. At that time the country had not been surveyed by the Government, it was heavily timbered, and the only road leading to the lake was an Indian trail along the river. In 1831 he built the first frame house, and in 1832 he incorporated the settlement as Newburyport, afterward changing the name to St. Joseph. At the breaking out of the Black Hawk War, in 1832, Mr. Hoyt raised a company of 40 men, who were stationed at the mouth of the St. Joe river to hold in check the Ottawas, Chippewas, and Pottawatomies till Black Hawk should be subdued. Besides a liberal bounty, each member of this company (the first raised in the country) received a pension of \$96 a year and 160 acres of land. Mr. Hoyt was the only surviving pensioner of the Black Hawk War. For many years he was engaged in banking in St. Joseph.

Hubbard, Richard B., ex-Governor of Texas, born in Walton County, Georgia, Nov. 1, 1832; died in Tyler, Texas, July 12, 1901. He was graduated at Mercer University, Georgia, in 1851. After completing his law studies at the University of Virginia and at Harvard, he returned to Georgia, whence he emigrated with his father to Texas in 1853. He practised in Tyler, and in 1856 was a delegate to the Democratic National Convention. He was United States District Attorney for the western district of Texas from 1857 to 1859, when he resigned to become a member of the Legislature. He resigned in 1862 and raised the 22d Texas Infantry, and continued its colonel throughout the war. He was disfranchised for some years after the war, and when the civil disabilities were removed he reentered

politics. He was president of the Democratic State Convention in 1873, and chairman of the Democratic State Executive Committee. He was elected Lieutenant-Governor in 1873, and became Governor when Gov. Coke was elected to the United States Senate in 1876, and held the office till 1879. He was a delegate to the Democratic National Convention of 1880, and temporary chairman of the Democratic National Convention of 1884. He was minister to Japan in 1885. He ranked high as a platform orator, one of his most notable speeches being that delivered at the Philadelphia Centennial in 1876. He published, in 1900, *The United States in the Far East; or, Modern Japan and the Orient*.

Huidekoper, Rush Shippen, physician, born in Meadville, Pa., May 3, 1854; died in Philadelphia, Pa., Dec. 17, 1901. He was graduated in medicine at the University of Pennsylvania in 1877, and at the National Veterinary School, Alfort, France, in 1882, and spent the following year in the laboratories of Virchow, Koch, Chauveau, and Pasteur. After returning to the United States he was engaged in hospital practise, and was Commissioner-General to the Agricultural Exposition, Hamburg, Germany, 1883. He became dean of the veterinary department, University of Pennsylvania, and Professor of Internal Pathology and Contagious Diseases, Zootechnics and Hygiene, Comparative Anatomy, and Veterinary Surgery in the New York College of Veterinary Surgery. He was major and brigade surgeon in the National Guard from 1878 to 1891; acting assistant quartermaster-general after the Johnstown flood in 1888; and later lieutenant-colonel and surgeon-in-chief. He was made lieutenant-colonel and chief surgeon, United States volunteers, in 1898, and he served as chief surgeon to the 1st Army Corps after the outbreak of the Spanish-American War, and later in the same capacity with the army in Porto Rico. Dr. Huidekoper published the following books: *Age of Domestic Animals*, *The Cat*, and *The Veterinary Blue Book*, and was editor of the *Journal of Comparative Medicine and Veterinary Archives*, Philadelphia, after 1889.

Hungerford, Mary Churchill, author, born in Staffordshire, England, Jan. 25, 1832; died in Paris, France, Sept. 18, 1901. Her father, William Churchill, of New York city, was a wealthy merchant and importer of fine china. She was educated in private schools in England, France, Italy, and the United States. Her brilliant mind and social gifts had won her distinction before necessity forced her in later years to her pen for support. She was the author of *The Friendly Five*, and *Philip*, books for young girls, and of many magazine articles.

Hutton, William Rich, civil engineer, born in Washington, D. C., March 26, 1826; died in Cloppers, Md., Dec. 11, 1901. For several years he was chief engineer of the Washington, D. C., Water-Works and of the Chesapeake and Ohio Canal, and he was chief engineer in the construction of the Washington aqueduct. He removed to New York to become chief engineer for the English syndicate that began the tunnel under the Hudson river, and subsequently he superintended the construction of the Washington Bridge across Harlem river. He was a member of the Maryland Historical Society, the American Society of Civil Engineers, the Institution of Civil Engineers of London, and the Société des Ingénieurs Civils de France.

Hyatt, Thaddeus, inventor, born in Rahway, N. J., July 21, 1816; died in Sandown, Isle of Wight, England, July 25, 1901. He was the in-

ventor of the bull's-eye lens, used as a means of increasing the light in vaults under street sidewalks, and through its manufacture made the fortune that he afterward devoted to the anti-slavery cause. He was the intimate friend of Sumner, Greeley, and the leaders of the abolitionist movement, and his house in Morton Street was John Brown's headquarters in New York city. After the execution of John Brown, Mr. Hyatt was summoned to appear before the United States Senate Committee to give testimony regarding the movements leading up to the Harpers Ferry incident. He refused to appear, and was committed to the old Capitol Prison in Washington, where he was confined several weeks. He had his cell decorated and furnished, issued invitations to his friends, and kept an autograph-book of his visitors, which contains the names of many distinguished men. He sent out anti-slavery communications to various papers and magazines, and arranged for a series of meetings in Cooper Union, New York. The first in the series was called the "John Brown Meeting," and was addressed by Wendell Phillips and others. When Kansas was suffering from famine, shortly after the election of Abraham Lincoln, as the result of the failure of the crops, Mr. Hyatt organized the Kansas Relief Committee. He went to that State and personally superintended the distribution of money, clothing, and food until the work was completed. His later years he spent in extensive travel. In appearance he resembled Garibaldi, and once, while walking in Paris, he was arrested by a detective, who was positive that his prisoner was the Italian patriot. Mr. Hyatt could not speak French, but he soon obtained his release.

Irwin, John, naval officer, born in Philadelphia, Pa., April 15, 1832; died in Washington, D. C., July 28, 1901. He was graduated at the Naval Academy in 1853; was commissioned master, Sept. 15, 1855; lieutenant, Sept. 16, 1855; lieutenant-commander, July 16, 1862; commander, July 25, 1866; captain, May 15, 1875; commodore, March 4, 1886; and rear-admiral, May 19, 1891. He served on the Cumberland, St. Lawrence, John Adams, Fulton, and Savannah, and on the Wabash during the civil war. With the latter he was engaged in blockading service, and participated in the capture of the forts at Hatteras Inlet and of Forts Walker and Beauregard, at Port Royal, S. C. He was present also at the capture of Fort Pulaski. He commanded successively the Newbern, Gettysburg, Yantic, Sabine, and Pensacola, in the North Atlantic and the Pacific squadrons, from 1868 till 1879. In 1872 he was in command of the League Island station, and from 1879 to 1883 in command of the Mare Island Navy-Yard. He was president of the Board of Inspection for California from 1884 to 1888; afterward in command of the naval forces on the Pacific coast; commander of the Mare Island Navy-Yard, and on March 16, 1893, he succeeded Admiral Harmony in the command of the Asiatic station. He was retired April 15, 1894, having reached the age limit, after twenty-one years and eleven months of sea service and nineteen years and ten months of other duty.

Jackson, Francis Aristide, educator, born in Northumberland, Pa., March 20, 1830; died in Overbrook, Pa., April 4, 1901. He was graduated at the University of Pennsylvania in 1848. The University of Indiana conferred upon him the degree of LL. D. in 1883. For a short time he engaged in civil engineering, but in 1849 he accepted an appointment as assistant master in the Episcopal Academy of Philadelphia, where he taught

mathematics and chemistry. In 1855 he was elected Adjunct Professor of Latin and Greek in the University of Pennsylvania, and in 1864 he was made Professor of Latin, which chair he occupied until his death. He was a recognized leader in his subject of instruction, and took a wide interest in everything connected with the university. Through his efforts the library of Prof. Ernst von Leutsch, of Göttingen, comprising about 18,000 volumes in classical philology, was secured for the University of Pennsylvania in 1888. He also raised the fund for the erection in the college chapel of a memorial tablet to the alumni who fell in the civil war. For the use of his classes Prof. Jackson published treatises on Latin syntax and prosody, and on the Horatian meters, besides emendations of the texts of several Latin authors, and a Latin syllabus to accompany instruction in the freshman year.

James, Edward C., lawyer, born in Ogdensburg, N. Y., May 1, 1841; died at Palm Beach, Fla., March 24, 1901. He was educated in the public schools and at Walnut Hill Academy, Geneva, N. Y. At the outbreak of the civil war he enlisted in the 50th New York Volunteers, and shortly afterward was made adjutant. Later he was commissioned assistant adjutant-general of the engineer brigade of the Army of the Potomac, aide-de-camp to Gen. Woodbury, major of the 60th New York Volunteers, lieutenant-colonel of the 106th New York Volunteers, and colonel of the same regiment. In the autumn of 1863 he resigned on account of disability incurred in the service. Col. James was admitted to the bar in 1863, and practised law in Ogdensburg till 1874, when he removed to New York city. He was counsel for the Manhattan Elevated Railway Company and the Jay Gould estate. He recovered a verdict of \$37,000 against the Metropolitan Street Railway Company for the death of Capt. Rhodes, of the 7th Regiment. He successfully defended Russell Sage in the suit for \$100,000 damages brought against him by William R. Laidlaw, who was injured when Norcross threw a bomb in Sage's office.

Janes, Lewis George, political economist, born in Providence, R. I., Feb. 19, 1844; died in Greenacre, Me., Sept. 5, 1901. He was graduated at the Providence High School, and afterward received the degree of M. A. from Brown University. He was president of the Brooklyn (N. Y.) Ethical Association from 1885 to 1896; instructor in history in Adelphi Academy in 1894 and 1895; and lecturer on sociology and civics in the School of Political Science, Brooklyn, from 1893 to 1896. In 1896 he removed to Cambridge, Mass., to become the director of the Cambridge Conference and the Monsalvat School of Comparative Religion, Greenacre, Me. He was president of the Free Religious Association of America after 1899. In addition to his lectures and contributions to periodicals, Prof. Janes published *A Study of Primitive Christianity* (1887); *Evolution of Morals* (1889); *Scope and Principles of the Evolution Philosophy* (1890); *Life as a Fine Art* (1891); *The Problem of City Government* (1892); *War and Progress* (1893); *Cosmic Evolution as related to Ethics* (1895); *Samuel Gorton, First Settler of Warwick, R. I.* (1896); *Social Ideals and Social Progress* (1899); and *Health and a Day* (1901).

Jasper, John, negro clergyman, born in Fluvanna County, Florida, July 4, 1812; died in Richmond, Va., March 30, 1901. He was the youngest of 24 children, and in his boyhood worked on the plantations with the other slaves. On his twenty-seventh birthday he was converted, and on the 25th of the same month united with

the church. He at once set about to learn to read, that he might be able to read the scriptures, and after seven months he had a spelling-book, assisted by another slave, William Jackson, he advanced to the Bible, and preached in the neighborhood on Sabbath days. He said that during the civil war he was a visitor to the wounded in the Confederate hospital near his master's home. His first pastoral position was in Petersburg, where he is said on one occasion to have baptized 300 candidates in two hours. He served several negro churches in Richmond and other cities, and soon after the civil war became the pastor of the Sixth Mount Zion Baptist Church, of Richmond. In 1868 his congregation bought a neat brick edifice, which has since been remodeled. The church has a membership of more than 2,000, and has long been prosperous. There he first delivered the "sun do move" sermon which made him famous. This sermon was based on Exodus xv, 3: "The Lord is a man of war; the Lord is his name," and in it the preacher held that "we live on a four-cornered earth," around which the sun moves. "The Bible says the sun stood still," he announced dogmatically. "Is anybody going to say the sun was standing still before Joshua told it to stand still? Do you think Joshua would have asked the privilege to stop the sun if she had not been moving? This morning when the sun rose she was over there [pointing to the east]. How in the name of God could the sun get from that side of the house over to this [pointing to the west] unless it moved? Now, Solomon was certainly a scholar. Do you know he was the man who said, 'The sun ariseth and goeth down and hasteneth back to the place she moved from'? It is nonsense to say that the sun does not move. Every man who ever read the Bible knows the sun do move." This sermon was published in a local paper, and was copied all over the country and throughout Europe. In some foreign quarters it was taken seriously, and many ludicrous discussions resulted. Jasper refused offers of lecture engagements, but by request repeated his famous sermon many times, and up to the time of his death the announcement that he would preach from the text "The Lord is a man of war" was enough to fill the church to overflowing.

Joos, Edward, clergyman, born in Somergem, Belgium, April 9, 1825; died in Monroe, Mich., May 18, 1901. He completed the classical course in the College of Thiel, studied at the Seminary of Ghent, and was ordained in the Cathedral there, June 17, 1848. In September, 1856, he came to the United States and was stationed at St. Anne's Church, Detroit, till Nov. 5, 1857, when he was appointed pastor of St. Mary's parish, Monroe, Mich., and placed in charge of the newly organized Congregation Sisters, Servants of the Immaculate Heart of Mary. There he was identified for nearly half a century with the work of Catholic education, building up not only an institution of learning, but a community of trained teachers as well. When Bishop Borgess resigned, in 1887, Father Joos was again appointed administrator by Rome, which office he held till the consecration of the Right Rev. Bishop Foley, who on his first visit to St. Mary's Academy, Dec. 3, 1888, named Father Joos vicar-general of the diocese. In recognition of his services to the Church and to the cause of education, Leo XIII, in April, 1889, conferred upon him the title of Monsignor, Domestic Prelate of the Pope.

Kellogg, Elijah, clergyman and author, born in Portland, Me., May 20, 1813; died in Harpswell, Me., March 17, 1901. He was graduated at Bow-

doin College in 1840, studied at Andover Theological Seminary, and in 1844 he was ordained pastor of the Congregational church in Harpswell. Resigning his pastorate in 1855, he removed to Boston, where for ten years he was chaplain of the Seamen's Friend Society. He was subsequently in charge of a Congregational church at Rockport, Mass., but after a short time returned to Harpswell, which was his home for the rest of his life. While a student at Andover he wrote the famous blank-verse address, *Spartacus* to the Gladiators, familiar to every American school-boy, as well as *Regulus* to the Carthaginians and *Pericles* to the People, and on his return to Harpswell he began writing books for young people, *Charlie Bell, the Waif of Elm Island* (1868), being the first. His juvenile tales still continue popular, but his fame is likely to be longest preserved by the *Spartacus*. He published also *The Ark of Elm Island* (1869); *The Boy Farmer of Elm Island* (1870); *Hardscrabble of Elm Island* (1870); *Norman Cline* (1870); *The Young Shipbuilders of Elm Island* (1870); *Arthur Brown, the Young Captain* (1871); *The Cruise of the Casco* (1871); *The Young Deliverers of Pleasant Cove* (1871); *The Sophomores of Radeliffe* (1871); *The Spark of Genius* (1871); *The Child of the Island Glen* (1872); *John Godso's Legacy* (1873); *Sowed by the Wind* (1873); *The Turning of the Tide* (1873); *A Stout Heart* (1873); *Winning his Spurs* (1873); *The Fisher Boys of Pleasant Cove* (1874); *Wolf Run* (1875); *Brought to the Front* (1876); *The Mission of Black Rifle* (1876); *Forest Glen* (1877); *Good Old Times* (1877); *Burying the Hatchet* (1878); *A Strong Arm and a Mother's Blessing* (1880); *The Unseen Hand* (1882); *The Live Oak Boys* (1883).

Kellogg, George, inventor, born in Pine Meadow, Conn., June 19, 1812; died in New Hartford, Conn., May 6, 1901. He was graduated at Wesleyan University in 1837, and after engaging for a short time in the manufacture of machinery he was principal of Sumter Academy, Sumterville, S. C., from 1838 to 1841. He then became a manufacturer in Birmingham, Conn., and in 1855 removed to New York city to educate his daughter, Clara Louise, who at an early age attracted attention by the quality of her voice. From 1863 to 1866 he was a United States revenue officer, and afterward engaged in manufacturing and in experiments at Cold Spring, N. Y. He was an expert in shorthand writing and made many additions to the methods of studying stenography. For his mechanical knowledge and inventive ability he was called as an expert witness in many notable patent cases. His more important inventions were a machine for making jack-chain at the rate of a yard a minute (1844); a dovetailing machine (1849); a type distributor (1852); an obstetrical forceps (1853); and an adding apparatus (1869). In 1845 he established a manufactory of hooks and eyes, with American machinery, at Redditch, England, and in 1868 he began to make hats in London, under a patent issued to his brother, Albert Kellogg, the botanist and inventor.

Kendall, Edward Hale, architect, born in Boston, Mass., July 31, 1842; died in New York city, March 10, 1901. He was educated at the Boston Latin School and at the School of Fine Arts in Paris. He was the architect of the original Equitable Life Assurance Building and of the Methodist Book Concern Building, both in New York city, and the New York houses of Robert and Ogden Goellet. As consulting architect of the Department of Docks he directed the building of the recreation piers along the New York water-

front. He was president of the World's Convention of Architects in Chicago in 1893; president of the New York Chapter of the Institute of American Architects, 1887-'91; and president of the American Institute of Architects in 1892-'93.

Kennedy, George Nestor, jurist, born in Marcellus, N. Y., Sept. 11, 1822; died in Thousand Island Park, N. Y., Sept. 7, 1901. He studied law, and was admitted to practise in 1842. In 1854 he removed to Syracuse. He was a delegate to the convention that nominated Martin Van Buren for the presidency in 1848, and to the National Republican Convention of 1856. He was elected to the State Senate in 1863, and served till 1871. While there he served as chairman of the Committee on Privileges and Elections, and won distinction by introducing a resolution opposing the granting of money to private, parochial, and sectarian schools. He was elected justice of the Supreme Court of New York for the 5th District in 1883, and was retired Jan. 1, 1893, having reached the age limit.

Kimball, Lorenzo W., inventor, born in Pittsford, Vt., May 24, 1814; died in Rutland, Vt., April 13, 1901. He was a machinist and pattern-maker by trade, and during his life he was engaged in several manufacturing enterprises in Brandon, Rutland, and Pittsford. During the civil war he was employed in the Colt armory in Hartford, Conn., and was a gun inspector in the United States Arsenal in Springfield, Mass. After 1872 he resided in Rutland. About 1865 he bought a thread factory in Pittsford, and after running it as a machine-shop for a short time he sold it to a straw-board manufacturing company. Mr. Kimball never had seen heavy paper manufactured before, and he was much impressed with its hardness and durability. His interest led him to invent the paper car-wheel. The first 12 wheels he made with his own hands in a little shop in Brandon. Four of them were put under one end of a freight-car and run on the Rutland Railroad several months. The other 8 were put under a Pullman palace-car and run 500,000 miles without repairing anything but the steel tires. These tests demonstrated the practicability of the invention, and Mr. Kimball and Mr. Allen, of the paper firm, took out patents and began the manufacture of the wheels in Pittsford. After two years the plant was removed to Hudson, N. Y., and the wheels, now in extensive use, are manufactured by the Pullman Car Company. Mr. Kimball retired from the company before it left Pittsford, and realized little from his inventions, although his associates are said to have made a fortune. He also took out patents for a paper door in 1868, and in the following year for paper mouldings, but these never came into general use.

King, Clarence, geologist and author, born in Newport, R. I., Jan. 6, 1842; died in Phoenix, Arizona, Dec. 24, 1901. He received his early education in Hartford, Conn., where, at the high school, Mary A. Dodge (Gail Hamilton) was his teacher in English composition. He was graduated at Sheffield Scientific School, Yale, in 1862, and crossed the plains, and for three years was employed in the geological survey of California, under Prof. Josiah D. Whitney. In the course of this work he and James Terry Gardiner made the first survey of the Yosemite valley, and constructed a complete map, from which a model was afterward made. In 1866 Mr. King went to Washington to urge upon the Government his plan for a geological survey of the whole western part of our domain. In this he was successful, and that portion of the work designated as the Survey of the Fortieth Parallel was assigned to him. With a force of

scientific and professional men—naturalists, mining engineers, geologists, surveyors, besides laborers and teamsters, numbering in all about 100—he set himself to the task, which was under the

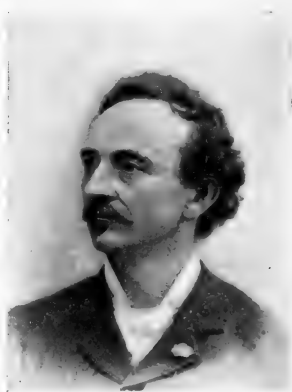


auspices of the engineering department of the army. This occupied five years, and was completed in 1872. Of the 6 large volumes that make up the report, the first, entitled *Systematic Geology*, was written by Mr. King, and has been admired for the perfection of its literary style as well as its scientific value. His paleontological discoveries furnished the evidence by which the age of the gold-bearing rocks was determined. In 1872 certain swindlers attempted a great fraud by "salting" a certain territory in Arizona with rough diamonds, and then announcing the discovery of rich diamond-fields. The trick was detected and exposed by Mr. King, and the scheme failed. He originated and promoted the plan for a permanent geological bureau, bringing all the Government work under one director, and when the bill was passed by Congress, in 1878, he was placed at the head of it. But three years later he resigned, for personal and financial reasons. He at once had a large practise as a mining expert, and became interested in several mining enterprises in the Western Territories and in Mexico. He also carried on a long and costly series of experiments and observations in physical geology, the results of which were contributed to *Silliman's Journal* for January, 1893, under the title *The Age of the Earth*. He published in the *Atlantic Monthly*, in 1871, a series of papers that were issued the next year in book form under the title *Mountaineering in the Sierra Nevada*, which are perhaps the most brilliant literary productions that ever came from the pen of a professional scientist. The book was republished in England, and had a large sale in both countries. His other contributions to periodicals include a notable story entitled *The Helmet of Mambrino*, which appeared in the *Century* in 1886, and an essay entitled *Artium Magister* in the *North American*

Review. Mr. King had a taste for art in its various forms, and was a collector of classical literature. In company with some of the most remarkable men of his time he was as a *raconteur* an excellent power. "The trouble with King is, that the glow of a sunset spoils the original." He spent much time in successive trips to Europe, and sailed on many seas. His last travels were in the Klondike region. He was a member of the National Academy of Sciences. Mr. King was one of the kindest hearted of men, and did many deeds of benevolence that involved personal risk as well as pecuniary outlay. He never married.

Knipe, Joseph Farmer, soldier, born in Mount Joy, Pa., Nov. 30, 1823; died in Harrisburg, Pa., Aug. 18, 1901. He served in the ranks in the Mexican War, and afterward he engaged in business in Harrisburg. In 1861 he organized the 46th Pennsylvania Volunteers and became its colonel; he was commissioned brigadier-general of volunteers in 1862. He served with the Army of the Potomac and that of the Cumberland, and commanded a division at the fall of Atlanta, afterward serving as chief of cavalry in the Army of the Tennessee. He was twice wounded at Winchester, Va., twice at Cedar Mountain, Ga., and once at Resaca, Ga. He was retired at his own request in September, 1865, refusing a colonelcy in the regular service. He was postmaster of Harrisburg, Pa., during the Johnson administration, and for a time was superintendent of one of the departments in the military prison at Fort Leavenworth, Kan.

Kraus, Adolf Robert, sculptor, born in Zeulenroda, Germany, Aug. 5, 1850; died in Danvers, Mass., Nov. 7, 1901. He was a pensioner of the Prussian Government, a winner of the Grand Prize of Rome, and a sculptor of reputation before he removed to the United States in 1881. His best work is represented by the Theodore Parker and Crispus Attucks monuments, in Boston. He was the sculptor of the winged figures of Victory that crowned the towers of Machinery Hall at the Columbian Exposition in Chicago in 1893. Shortly before his death he had all but completed the clay model of a heroic figure of Belshazzar at the moment of seeing the handwriting on the wall when it began to crumble. His failure to produce this masterpiece unbalanced his mind and hastened his death.



Kreutzer, William, soldier, born in Benton, N. Y., Sept. 11, 1828; died in Lyons, N. Y., May 27, 1901. He was graduated at Genesee College in 1853, and afterward accepted the professorship of Greek in that institution. He entered the National army as a captain in the 98th New York Volunteers, and served as adjutant-general of the Department of the South. He was in charge of the voting of the sick soldiers in the Department of Virginia and North Carolina in 1864, and the same autumn, under Gen. Butler, assisted in maintaining order in New York city during the election. Meanwhile he had risen

to the rank of colonel. He was military correspondent of the New York Tribune throughout the war.

Kyle, James Henderson, United States Senator, born near Xenia, Ohio, Jan. 24, 1854; died in Aberdeen, S. Dak., July 1, 1901. He studied civil engineering in the University of Illinois, and in 1878 was graduated at Oberlin in the classical course, and at the Western Theological Seminary, Allegheny, Pa., in 1882. While taking his theological course he taught mathematics and engineering in Pittsburg. He was three years pastor of Plymouth Congregational Church in Salt Lake City, and afterward traveled through Colorado and Utah as a home missionary. He preached for a time in Ipswich, S. Dak., and in 1888 became pastor of the Congregational church in Aberdeen. A year and a half later he resigned to become the financial agent of Yankton College. On July 4, 1890, he was unexpectedly called upon to deliver an oration before the citizens of Brown County, South Dakota. He spoke about half an hour, advocating the more general distribution of wealth and denouncing the corruption of politics. As the result of this speech he was elected to the State Senate in the autumn of that year. Following a deadlock in the Legislature, he was elected as an independent to the United States Senate. He was reelected in 1897. He was a Republican until 1887, but then joined the Democratic party, and, when he was elected to the United States Senate, it was by the votes of the Farmers' Alliance members. He had been a Prohibitionist and was known as a sympathizer with the female-suffrage movement. On Dec. 28, 1899, he announced his abandonment of the Populist party. After that time he was classified in the Congressional Directory as a Republican. After March, 1893, Senator Kyle served as chairman of the Senate Committee on Education and Labor.

Ladue, Joseph, miner, founder of Dawson City, born in Plattsburg, N. Y., in 1853; died in Schuyler Falls, N. Y., June 26, 1901. When his parents died, in 1874, he determined to become a gold-miner. He appeared in Deadwood, S. Dak., in 1876, with about \$100 in his pocket, picked up a job as engineer in the mines, and studied mining night and day till he had mastered the business. He went into Alaska on a prospecting tour in the early eighties. He was the first man to hear of the rich Klondike region, and he selected 178 acres of Government land, at \$1.25 an acre, at the confluence of the Klondike and Yukon rivers. On June 23, 1897, he mapped and founded the town of Dawson City on this site, and the town lots, each 50 by 100 feet, brought in many instances \$5,000 each. He also organized the Ladue Gold-Mining and Development Company of Dawson. He returned to the United States in the latter part of 1897. He had contracted consumption in Alaska, and after his return to the States spent the greater part of his time in Colorado Springs, Col.

Lafin, Byron, soldier, born in Lee, Mass., in 1829; died in Hudson, N. Y., June 20, 1901. In early life he was a paper manufacturer, operating with his brother the mills that were conducted later by Warner Miller in Herkimer, N. Y. He enlisted as a captain in the 34th New York Volunteers, and was promoted to be its colonel. At the close of the war he was brevetted major-general of volunteers. After the war he was appointed provisional Governor of North Carolina, and afterward he served as a member of the Legislature of that State.

Lambert, Edgar L., engineer, born in Alexandria, Va., in 1838; died in New Orleans, La.,

Feb. 13, 1901. During the early years of the civil war he served as lieutenant-colonel of the 8th Virginia Regiment, and he was severely wounded in the Shenandoah valley campaign. After his recovery he was appointed lieutenant in the Confederate navy, and stationed at Mobile. In the battle of Mobile Bay he ran the Selma aground and sank her in order to prevent her capture, and after Farragut's victory he sank the Tuscaloosa in Alabama river. After the war he was appointed to a command under Maximilian in Mexico. He assisted in building the railroad from Mexico to Vera Cruz. When Maximilian was overthrown he returned with the French to France, and remained there till 1870. Returning to the United States as engineer, he assisted in the building of the Texas and Pacific, Missouri, Kansas and Texas, and other Western railroads. After 1893 he was engaged on the survey and plan for the new combination sewerage and drainage system of New Orleans.

Lankenau, John D., capitalist and philanthropist, born in Bremen, Germany, in 1815; died in Philadelphia, Pa., Aug. 30, 1901. He removed to the United States when nineteen years old, to accept a place with a firm of dry-goods importers by whom he had been employed in his native town. He afterward became a member of the firm, and, amassing a fortune, retired in 1865. In 1848 he had married Mary Joanna Drexel, a daughter of Francis M. Drexel. He was named as one of his father-in-law's executors, and the management of the Drexel estate eventually fell entirely into Mr. Lankenau's hands. The work of carrying out the provisions of Francis M. Drexel's will extended over many years, and occupied the executor's attention until his death. Mr. Lankenau succeeded Mr. Drexel on the Board of Trustees of the German Hospital, and was its president after 1869. He was chairman of the commission in charge of the German exhibit at the Centennial Exposition in 1876, and received a decoration from Emperor William I. He established the Mary J. Drexel Home for Aged and Homeless Patients of the German Hospital, and was a liberal contributor to many institutions and charities.

Lawson, John, engineer, born in Manchester, England, Aug. 8, 1805; died in St. Louis, Mo., Nov. 21, 1901. When still a boy he was apprenticed to George Stephenson, the inventor of the locomotive, and under his direction built the first engine. Soon afterward he came to the United States, and for many years he served as a locomotive engineer on various railroads in the East and South. He later engaged in the steamboat business, residing in Paducah, Ky., for fifty-six years. He made a fortune out of the Cumberland river trade.

Leary, Richard Phillips, naval officer, born in Baltimore, Md., Nov. 3, 1842; died in Chelsea, Mass., Dec. 27, 1901. He was graduated at the Naval Academy in 1860, and received successively the following commissions: Ensign, Oct. 1, 1863; master, May 10, 1866; lieutenant, Feb. 21, 1867; lieutenant-commander, March 12, 1868; commander, June 2, 1882; and captain, April 6, 1897. He was attached to the blockading squadron off Charleston from 1863 to 1865, was aboard the Canandaigua on the European station from 1865 to 1868, on the Dictator with the North Atlantic fleet from 1870 to 1873, on the Constellation on special service in 1879, on the Pacific station on the Pensacola from 1879 to 1881, and on the Vandalia on the North Atlantic station from 1881 to 1882. After his appointment as commander, in the latter year, he commanded suc-

cessively the Wyandotte, the Iroquois, and the Adams. On the latter ship he first attracted public notice by his attitude during the Samoan revolution of 1888. In September of that year the commander of the German cruiser Adler threatened to bombard a native fort unless it was evacuated by the adherents of Mataafa. The Germans were supporting Tamasese. Leary was in command of the little Adams, a third-rate vessel of antique type, and, finding the Germans about to interfere forcibly in support of their candidate for the Samoan chieftainship, he cleared ship for action, first placing his vessel in position to command the approaches to the fort, and forbade any interference. He also landed marines to protect the American consulate. He remained at his post until the American squadron, under Admiral Kimberly, arrived, when he was sent north in the Adams. For this service the Maryland Legislature voted him a gold medal. He commanded the San Francisco after September, 1897, and in the West Indies campaign of the Spanish-American War; and after the war he was stationed at the Boston Navy-Yard till April, 1899, when he was appointed the first naval Governor of Guam. On the island he was in absolute authority. He carried his government in his ship, the Yosemite, and had to execute as well as judge of the laws. He ruled the island as he would his ship, breaking up immorality by obliging the natives to marry, calling upon the men for a certain amount of work every week, and even prescribing the minimum number of poultry which should be maintained in each family. He secured the respect and affection of the natives. In the spring of 1900 he was replaced by Commander Seaton Schroeder. He was then assigned to the League Island Navy-Yard, and on Dec. 6, 1900, to the command of the receiving-ship Richmond. He was relieved of the command of the Richmond, at Boston, in October, 1901, on account of heart trouble. About two weeks before his death he made application for his retirement as a rear-admiral. The application was approved by the examining board and the President the day before his death, but for some unknown reason the letter of the Secretary of the Navy, announcing to him his promotion and retirement, was not mailed in Washington until Dec. 30.

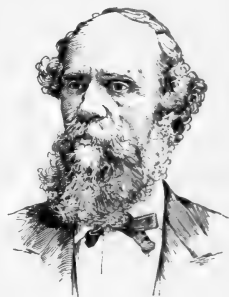
Leavenworth, Abel E., educator, born in Charlotte, Vt., in 1828; died in Castleton, Vt., June 3, 1901. He was graduated at the University of Vermont in 1852, and became principal of Bolivar (Mo.) Academy. In 1855 he took charge of Hinesburg (Vt.) Academy, and in 1859 he became editor and proprietor of the State School Journal, continuing as such and as principal of West Brattleboro Academy till May, 1862, when he enlisted as sergeant in the 9th Vermont Volunteers. He was appointed captain in December, 1864, and after June, 1863, was assistant inspector-general of Wistar's brigade, and assistant adjutant-general till early in 1865. After the war he again became principal of Hinesburg Academy, and later of Beaman Academy. In December, 1874, he took charge of the Normal school at Randolph, Vt., and in 1881 of Castleton Seminary and Normal School. For two years he was president of the Teachers' Association of Vermont.

Leavitt, Andrew Jackson, actor, born in Boston, Mass., in 1822; died in that city, Feb. 1, 1901. He made his first appearance with an amateur dramatic club in Albany, N. Y., as Cool in London Assurance. His first professional appearance was with a minstrel company, and he was a popular favorite as end-man and comedian. He became proprietor and manager of a small

minstrel house in Boston, and then built the Green Street, Boston, which he managed successfully for a time. Reverses came to him to active work in other theaters in New York and produced a clear success. The Happy Land of Canaan, which won his reputation as a sketch-writer, and engagements in Philadelphia, New Orleans, and other large cities, he finally settled in Boston, where he played ten years in negro farces at the Hollis Athenæum. A few years ago he appeared again in legitimate drama, his last engagement being in The Two Sisters. In 1891 he became the stage-doorkeeper at the Hollis Street Theater, Boston, where he remained up to the time of his death.

Le Brun, Napoleon Eugene Charles Henry, architect, born of French parents at Philadelphia, Pa., Jan. 2, 1821; died in New York city, July 9, 1901. He studied architecture in the office of Thomas U. Walter, and in 1842 began the practice of his profession in his native city, where he designed the Roman Catholic cathedral, the Academy of Music, and other buildings of note. About 1861 he removed to New York city, where with his son he designed the Masonic Temple, the New York Foundling Asylum, the Metropolitan Life Insurance building in Madison Square, and other notable structures.

Le Conte, Joseph, geologist, born in Liberty County, Georgia, Feb. 26, 1823; died in Yosemite valley, California, July 6, 1901. He was descended from Guillaume Le Conte, a Huguenot, who fled from Rouen after the revocation of the Edict of Nantes and settled in New Rochelle, N. Y., in 1698. Lewis, a grandson of Guillaume, after graduation at Columbia in 1799, settled in Liberty County, Georgia, where his sons John and Joseph were born. Joseph was graduated at Franklin College of the University of Georgia in 1841, and at the College of Physicians and Surgeons



in 1845. He entered on the practice of medicine in Macon, Ga., but abandoned his profession to enter Lawrence Scientific School of Harvard, where he studied natural sciences and geology under Louis Agassiz, receiving the degree of B. S. in 1851, and during that year he spent some time with Agassiz exploring the reefs and keys of Florida. In 1852 he was chosen to the chair of Natural Science in Oglethorpe College, but a year later resigned to accept the professorship of Geology and Natural Science in the University of Georgia, where his brother John was Professor of Natural Philosophy. He retired from this university in 1856 to become Professor of Geology and Natural History in South Carolina College, where he remained until 1862, when, owing to the civil war, college work was abandoned, and he was for a time engaged as chemist in the Government laboratory for the manufacture of medicines, and later as chemist in the niter and mining bureau in Columbia. In 1866 he returned to his professorial duties in the University of South Carolina, but two years later he joined the original faculty of the University of California, becoming Professor of Geology, Botany, and Natural History, which chair he then held until his death. His scientific work included researches on the phenomena of binocular vision and many

important contributions to geology, especially of the Pacific slope, where he was the first to determine the age and character of the Cascade mountains, and their relation to the great Columbia lava flood. He described the ancient glaciers of the Sierra Nevada, and was among the first to recognize the post-tertiary elevation of those mountains, as shown by the river-beds. His studies on mountain structure led him to important generalizations on the origin of mountains in general, and he became one of the chief exponents of the "contractional theory" of mountain building. His studies on ore deposition at Steamboat Springs, Nev., and Sulphur Bank, Cal., led him to a discussion of vein-formation in general, and his classification of ore deposits is not displaced in its essential features by the most recent work in the same direction. He also made important contributions to the subjects of seismology and coral growth in geological aspects. Prof. Le Conte was an advocate of the doctrine of evolution. He was also interested in art. The degree of LL. D. was conferred upon him in 1879 by the University of Georgia, and he was a member of many scientific societies, including the National Academy of Sciences, to which he was chosen in 1875. Besides being one of the editors of the *Journal of Geology* and of *Science*, he was a large contributor to popular scientific and technical journals, as well as author of the following: *Religion and Science*, a series of Sunday lectures (New York, 1873); *Elements of Geology* (1878); *Sight: An Exposition of the Principles of Monocular and Binocular Vision* (1880); *Compend of Geology* (1884); and *Evolution: Its Nature, its Evidences, and its Relation to Religious Thought* (1887).

Leighton, George E., lawyer, born in Cambridge, Mass., in 1835; died in Monadnock, N. H., July 4, 1901. He removed with his father to Cincinnati in 1844, where he received his education, and in 1858 he began the practise of law in St. Louis, Mo. When the civil war broke out he became a lieutenant in the 3d Missouri Infantry. He saw active service in 1861, and then became major of the 5th Missouri Cavalry, but was transferred to the 12th Regiment. In the summer of 1861 he was made provost-marshal of the St. Louis division under Gen. Halleck. He served under and was commended by Gens. Curtis, Schofield, Halleck, Hamilton, and Davidson. He resumed his law practise after the war, but in 1874 gave it up for commercial pursuits. He was afterward connected with many notable manufacturing and financial interests. He was president of the Monetary Conference in Indianapolis in 1897, and was appointed by the executive committee a member of the Monetary Commission. He delivered a speech in opposition to the free coinage of silver at the Trans-Missouri Conference, of which 150,000 copies were printed and circulated. He gave much attention to public education, and after 1876 was a trustee of Washington University. His library was the largest private library in St. Louis, and was a paradise for bibliophiles. It was especially rich in history of the Mississippi valley. He was a founder of the National Arts Society. He was president of the Missouri Historical Society twelve years, and a member of the Academy of Science.

Lenihan, Thomas Mathias, Roman Catholic bishop, born in Mallow, Ireland, Aug. 12, 1844; died in Marshalltown, Iowa, Dec. 15, 1901. He was educated at Bardstown, Ky., the Ecclesiastical Seminary of Cape Girardeau, Mo., and the St. Francis Seminary of Milwaukee, and was ordained Nov. 19, 1867. He was pastor of St. Bene-

dict's Church, Decorah, Iowa, from 1868 to 1870. Later he had charge of Corpus Christi Church, Fort Dodge, Iowa, and adjacent missions. In its vicinity he established many new churches and parishes. He was made irremovable rector and dean, in which capacity he served till consecrated Bishop of Cheyenne, Wyo., Feb. 24, 1897.

Lewis, Charles N., actor, born in Seneca Falls, N. Y., Sept. 14 1819; died in Pokagon, Mich., Jan. 25, 1901. He first appeared on the stage in Utica, N. Y. Later he supported Edwin Forrest, William Knight, Adah Isaacs Menken, and others. Mr. Lewis is said to have opened the first theater in Chicago, at the corner of Lake and Dearborn Streets, in 1842. He retired from the stage in 1868.

Linsley, Joseph Hatch, bacteriologist, born in Windsor, Vt., May 29, 1859; died in Burlington, Vt., Feb. 17, 1901. He was graduated at the University of Vermont, in the medical department, in 1880, and served as lecturer on physiology and instructor in microscopy and chemistry in that institution. He was city physician of Burlington from 1881 to 1884, and from 1885 to 1888 he served as health-officer. He was then appointed instructor in clinical microscopy in the New York Post-Graduate Medical School and Hospital, and a year later he was made director of the laboratories of histology, pathology, and bacteriology, doing in addition the pathological work of St. Luke's and the Presbyterian Hospitals. In 1890 he went to Berlin and took a course in bacteriology under Koch. Again he went to Germany as representative for the New York Post-Graduate School to obtain some of Koch's lymph, and on his return he gave the first address on the lymph treatment for tuberculosis in the Academy of Medicine before the Medical Society of the County of New York. Later he was made Professor of Bacteriology and Pathology in the University of Vermont, and in connection with his instruction in that institution he did his greatest work in the upbuilding of the Vermont State Laboratory of Hygiene. In 1897 Dr. Linsley opened a small laboratory for the examination of cultures for suspected diphtheria and typhoid-fever cases, and in 1898 the State created a bacteriological laboratory, and placed him at its head. During his incumbency more than 11,300 examinations were made of specimens of food products and of cases of contagious and infectious diseases.

Littlejohn, Abram Newkirk, clergyman, born in Florida, N. Y., Dec. 13, 1824; died in Williamstown, Mass., Aug. 3, 1901. He was educated at Union College, studied theology, and entered the Protestant Episcopal ministry, taking priest's orders in 1849. After short rectorships at Amsterdam, N. Y., Meriden, Conn., and Springfield, Mass., he became rector of St. Paul's Church, New Haven, Conn., in 1851, remaining there nine years, and for seven years of that period holding the post of lecturer on pastoral theology at Berkeley Divinity School, Middletown, Conn. From 1860 to 1868 he was rector of Holy Trinity Church, Brooklyn, N. Y. In the last-named year he was elected bishop of the newly formed diocese of Central New York, but before official notice of the event had been received the first convention of the diocese of Long Island elected him bishop of that diocese also. He accepted the latter honor, and was consecrated in January, 1869. Between 1874 and 1886 he was also spiritual overseer of all the American Episcopal churches on the Continent of Europe. The degree of D. D. was given to him by the University of Pennsylvania in 1856, and

the University of Cambridge, England, conferred the honor of LL. D. upon him in 1884. The bishop was the author of *Conciones ad Clerum* (1880); *Individualism: Discourses before the University of Cambridge* (1880); and *The Christian Ministry at the Close of the Nineteenth Century* (1884).

Lorillard, Pierre, tobacco manufacturer, born in New York city, Oct. 13, 1833; died there, July 7, 1901. With his four brothers he inherited the tobacco business from his father, and, buying them out, developed it with great success. He owned the schooner *Vesta*, and was one of the crew that raced her from Sandy Hook to Cowes for a sweepstake of \$10,000. His colt *Iroquois* won the English Derby in 1881, and he was the only American that ever won that event with an American-bred horse. Mr. Lorillard left fine stables in England and on his breeding-farm at Rancocas, N. J. He founded the colony of Tuxedo on land of his in the Ramapo hills. He was interested with the French Government in fitting out the two Charnay Franco-American archeological expeditions to explore the ancient cities of Central America and Yucatan, and France, as a reward for his generosity, made him an officer of the Legion of Honor.

Luby, Thomas Clarke, Irish patriot, born in Dublin, Ireland, Jan. 15, 1822; died in Jersey City, N. J., Nov. 28, 1901. He was graduated at Trinity College, Dublin, in 1840, and studied law at the Temple, London, but chose journalism as his profession. He early associated himself with the Irish National cause, and joined his fortunes with James Stephens in the organization of the Fenian movement. Stephens and Luby met in Dublin and administered the oath to each other as leaders of the cause. Mr. Luby came to the United States in 1863, and as a result of this visit the American branch was subordinated to the home organization, and so remained until its disruption in 1866. In 1864 the Irish People was established in Dublin, and Mr. Luby became its managing editor. John O'Leary was editor-in-chief. The paper was ultimately suppressed by the British Government. Mr. Luby was arrested, tried, and convicted of treason-felony, and sentenced to twenty years' imprisonment. He served five years of the term, and in December, 1870, was pardoned under Mr. Gladstone's Constitutional Amnesty bill, on condition that he should go abroad for the remainder of the prescribed term. He first went to the Continent, and then came to the United States, where he afterward made his home. He was widely known as an author and lecturer, his best-known books being *The Life of Daniel O'Connell* and *The Lives of Illustrious and Representative Irishmen*. He withdrew from the Irish movement in 1880 on account of his hearty disapproval of the dynamite doctrine of the O'Donovan Rossa group of Nationalists, and he denounced, whenever opportunity offered, the Phoenix Park murders.

Ludlow, William, soldier, born in Islip, N. Y., Nov. 27, 1843; died in Convent, N. J., Aug. 30, 1901. He was graduated at West Point in 1864, was commissioned 1st lieutenant of engineers, became chief engineer, and was assigned to duty with the 20th Army Corps, under Gen. Hooker, then engaged in the campaign around Atlanta. Lieut. Ludlow joined the command the day before the battle of Peach Tree Creek, and was in most of the subsequent battles of the campaign. He was chief engineer of the left wing of the Army of Georgia on the march to the sea and in the Carolina campaign. He was brevetted captain, July 20, 1864, for gallant and meritorious services in the defense of Allatoona Pass; major,

Dec. 21, 1864, for meritorious services in the Georgia campaign; and brevetted lieutenant-colonel, March 13, 1865, for gallant and meritorious services in the campaign of the Carolina. He was promoted to advancement in the regular army as follows: Captain, March 7, 1867; major, Aug. 30, 1882; lieutenant-colonel, Aug. 12, 1883; brigadier-general, Jan. 21, 1900. He was engaged in organizing the engineer depot at Jefferson Barracks, Missouri, and was in command of the 1st and 2d regiments of engineers, and Company E of the engineer battalion stationed there in 1866. He was also at the same time in charge of the engineer property in Missouri and Arkansas. From 1867 to 1872 he was assistant to Gen. Gillmore and in charge of the fortifications and river and harbor work at New York city and along the South Atlantic coast. Then from Nov. 10, 1872, to May 9, 1876, he was chief engineer of the Department of Dakota. June 30, 1882, he was appointed major of the Corps of Engineers. He served as engineer secretary of the Lighthouse Board from Aug. 28, 1882, to March 8, 1883. From 1883 to 1886 he was chief engineer of the Philadelphia Water Department. For two years following 1888 he was engineer commissioner of the District of Columbia, and from 1888 to 1893 in charge of the river and harbor and lighthouse work on the Great Lakes. From 1893 to 1896 he was military *attaché* to the United States embassy in London. In 1895 he was president of the United States commission sent to report upon the feasibility of the Nicaragua Canal route, which finished its work in November. From 1897 to 1898 he was in charge of the river and harbor fortifications at New York. At the outbreak of the Spanish War he was appointed brigadier-general of volunteers. At the attack upon Santiago he was in command of the 1st Brigade of Lawton's division, and he was commended for his services at the battle of El Caney. On Sept. 8, 1898, he was promoted major-general of volunteers, and assigned to the command of the 2d Division of the 1st Army Corps. In December of the same year he was appointed military governor of Havana. In this latter capacity he had to assume much of the responsibility attached to the rehabilitation of the Cuban capital. In April, 1900, he was ordered to resume his duties as president of the board of officers appointed to consider the establishment of a war college for the army. In connection with this service he went abroad to study the organization of the French and German general army staffs. In February, 1901, he was ordered to the Philippines to command the department of Visayas. Owing to his illness, on April 26, his appointment was revoked and he was ordered home.

Lund, Unni, singer, born in Christiania, Norway, in 1866; died in Syracuse, N. Y., Nov. 16, 1901. She studied under French teachers, removed to Oswego, N. Y., in 1887, and the following year to New York city, where she was introduced to musical circles in a concert given by William Sherwood in Chickering Hall. For a time she studied in New York city with George Sweet, at the same time teaching in St. John's Episcopal School, Tarrytown, and singing in churches. In 1893 she became the head of the vocal department of Syracuse University. She was well known as a concert singer.

Lyall, James, inventor, born in Auchteradar, Scotland, Sept. 13, 1836; died in New York city, Aug. 23, 1901. He was brought to the United States when three years old, and worked in his father's shop at making Jacquard looms. He enlisted in the 12th New York Infantry and took

part in the defense of Washington in the early part of the civil war. He afterward established mills for the manufacture of cotton and jute goods and of milling machinery, and manufactured the first machine-made corsets in the world, designing much of the machinery. In 1863 he invented a varnish for waterproofing the cloth of knapsacks, which was approved by the Government, and led to his receiving large contracts for knapsacks and haversacks. In 1868 he invented the Lyall positive-motion loom, which revolutionized the manufacture of cotton goods. He also invented a cap press for compressing the cotton on the shuttles, and many other attachments and devices that are largely used in cotton-goods manufacturing. He received the gold medal of honor from the American Institute in 1869, and other medals and decorations.

Lyman, Henry Harrison, New York State commissioner of excise, born in Lorrain, N. Y., April 15, 1841; died in Oswego, N. Y., May 4, 1901. He was graduated at Pulaski Academy, studied civil engineering, and practised about three years. In 1862 he enlisted as a private in the 147th New York Volunteers. He served with distinction during the war, and when captured, in May, 1864, was adjutant of his regiment. He was in Confederate prisons ten months. When mustered out at the close of the war he was made a lieutenant-colonel of militia. Returning to Oswego at the close of the war, he engaged in banking. He held various town offices, and in 1872 was elected sheriff of Oswego County, serving three years. In 1889 he was made collector of the port of Oswego, which office he held till 1895, when he was appointed a member of the Forest, Fish, and Game Commission. The financial ability that he displayed in reorganizing the accounts of the Fish Commission, which were greatly disordered, led to his appointment as State commissioner of excise, March 30, 1896.

Lynch, James C., soldier, born in Waterbury, Conn., in 1840; died in Philadelphia, Pa., April 12, 1901. In August, 1861, he became 2d lieutenant in the 106th Pennsylvania Regiment. He was appointed 1st lieutenant in January, 1862, and became a captain one year later. In June, 1863, Capt. Lynch, at that time inspector-general of the division, was assigned to the command of the 183d Pennsylvania. He was mustered out in October, 1864, and at the close of the war was brevetted brigadier-general.

Lyon, Appleton Park, botanist, born in Erie, Pa., June 12, 1840; died in Mount Vernon, N. Y., Nov. 27, 1901. At the age of sixteen he became a tutor in a normal school in Lebanon, Ohio, and later Professor of Mathematics in the same school. He also studied at Brown, at Amherst, and at Union Theological Seminary. He was an ardent student of nature from his boyhood, and was the friend and adviser of students and botanists in all parts of the country. His library, which for many years was in Fifth Avenue, New York, just off Madison Square, was one of the best botanical libraries in the United States and was much used for reference. At his death, besides containing 22,000 books and pamphlets, it had a collection of 265,000 classified pictures of plants, with the texts, which it took Prof. Lyon and his wife twelve years to compile.

McAdam, David, jurist, born in New York city, Oct. 6, 1838; died there, Dec. 22, 1901. He attended the public schools, studied law, and in 1859 was admitted to the bar. He practised till 1873, when he was elected to the bench of the Marine Court, his term beginning in 1874. In 1879 he was renominated, and was the only Tam-

many nominee elected, running more than 15,000 votes ahead of his ticket. In 1885 he was returned to this tribunal, its name having been changed in 1882 to the City Court. He was elected by his associates chief justice of the court, and sat till 1890, when he was elected to the Superior Court. He filled this post till Dec. 31, 1895, when, by the new State Constitution, the Superior Court judges were made justices of the Supreme Court. His term would have expired Dec. 31, 1904. His decisions were noted for their conservatism and broad common sense rather than brilliance. For thirty years Justice McAdam, in good and ill health, did not miss a day and was not late in attendance on his courts. He was the author of law works, among them *Marine Court Practise* (1868, 1872); *Landlord and Tenant* (1875, 1882, 1900); *The Stillwell Act*; and *McAdam on Names*. A short time previously to his death he had completed, but had not yet published, an exhaustive work on *The Law of Negligence, as Applied to the Relations of Landlord and Tenant*. He was also popular as a lecturer, his best-known lectures being on *Character, George Washington, Lincoln and Grant, Robert Burns, Legal Chestnuts, and Lawyers, Wise and Otherwise*.

McClurg, Alexander Caldwell, publisher, born in Philadelphia, Pa., about 1834; died in St. Augustine, Fla., April 15, 1901. He was graduated at Miami University, Oxford, Ohio, in 1853; studied law in Pittsburg; and finally went to Chicago, where he became a clerk in the book-selling house of S. C. Griggs & Co. Aug. 15, 1862, he enlisted as a private, and soon afterward was made a captain in the 88th Illinois Infantry. Later he was made lieutenant-colonel in the adjutant-general's department, and chief-of-staff of the 14th Army Corps, and was brevetted colonel and brigadier-general. He participated in the battles of Perryville, Stone River, Chickamauga, Missionary Ridge, and Atlanta, and in the march to the sea. After the war he became a partner in the firm of S. C. Griggs & Co., afterward Jansen, McClurg & Co., and finally succeeded by A. C. McClurg & Co., of which he was the head, and which he made one of the largest book-distributing houses in the United States. On Feb. 12, 1899, the building and the entire stock, including many rare and valuable books and manuscripts, were destroyed by fire. Gen. McClurg then wished to retire, but he was persuaded to reorganize the house on cooperative lines, with a capital stock of \$600,000, mostly subscribed by its old employees, and to become president of the new concern. He was a frequent contributor to magazines, and he received the degree of A. M. from Yale in 1893.

McComb, James Jennings, business man, born in Mansfield, Ohio, Jan. 22, 1829; died in Dobbs Ferry, N. Y., March 31, 1901. He went to California in 1849, and, though successful there, not liking the life of the gold-fields, he returned to the East, where he became identified with the cotton business. He was the inventor of the arrow cotton tie, a simple device for use in the baling of cotton, which became immediately popular in the Southern States and brought him a large fortune. From 1861 till 1876 he resided in England. He afterward resided in New York city, and after 1881 at Dobbs Ferry. After his return to the United States he was engaged in many large business enterprises in New York city, and he was the owner of the Navarro apartment houses, Central Park South, having obtained the title upon the failure of the persons who were interested in their erection. Mr. Mc-

Comb gave largely to, and took an active interest in, many charities. One of his notable gifts was \$50,000 to the Southwestern Presbyterian University, Clarksville, Tenn.

McDonald, William, Methodist Episcopal clergyman, born in Belmont, Me., March 1, 1820; died in West Somerville, Mass., Sept. 11, 1901. He was educated in the common schools, and received the degree of D.D. from Upper Iowa University in 1887. He was apprenticed to the painting trade, but entered the ministry in 1840, and in 1843 connected himself with the Maine Conference. He had charges in Lincoln, 1843; Oldtown, 1844; Searsmont, 1845; Cherryfield, 1846; South Berwick, 1847; Salmon Falls, 1848; Chestnut Street Church, Portland, 1849-'50; Biddeford, 1851-'52; and Congress Street, Portland, 1853. During 1854 he was the representative of a tract society. In the summer of 1855 he preached in Minneapolis, Minn., and then in Appleton, Wis. He then supplied the pulpit of Haverhill Street Church, Lawrence, Mass.; was pastor of Clark Memorial Church, Portland, in 1858; organized Trinity M. E. Church, Providence, R. I., in 1859; and held the following pastorates in order: New Bedford, Mass., 1860-'61; Chestnut Street Church, Providence, 1862-'64; Grace Church, Boston, 1866-'69; East Boston, 1869; and Brooklyn, N. Y., 1870-'71. While in Boston he had been elected a member and vice-president of the National Camp-Meeting Association, which office he held sixteen years, succeeding to the presidency upon the death of the Rev. J. S. Inskip, and continuing as its president for twelve years. With the latter he engaged in evangelistic work. They visited England twice, and in 1880 extended the trip to India, Australia, and the Holy Land. They made 12 evangelistic trips from the Atlantic to the Pacific, preaching in 21 States, the first time carrying with them a large tent in which to hold services. In 1870 Dr. McDonald was made editor of the *Advocate of Holiness* (changed to *Christian Witness* in 1883), and he was at its head for about twenty-five years. He also held brief pastorates in Boston, Brookline, and Auburndale in his later years. He was the author of *History of Methodism in Providence, R. I.*; *Spiritualism Identified with Ancient Sorcery*; *New Testament Demonology and Modern Witchcraft*; *After Death, What?*; *Scripture Way of Holiness*; *Saved to the Uttermost*; *Wesley and his Doctrine*; *Another Comforter*; *The People's Wesley*; and *Life of Rev. Alfred Cookman*.

Macfeely, Robert, soldier, born in Pennsylvania, July 1, 1826; died in Washington, D. C., Feb. 22, 1901. He was graduated at West Point in 1852, was made 2d lieutenant in the 4th Infantry, in which Ulysses S. Grant was then a captain. In the same year the regiment was ordered to the Pacific coast by way of the Isthmus of Panama, and in the Bay of Panama cholera decimated the command. He served in California and southern Oregon, and was finally stationed at Fort Vancouver, Washington, the headquarters of his regiment. He was made 1st lieutenant, May 31, 1855, and accompanied the early expedition in the Oregon Indian war that began in 1856. On this expedition he attracted attention by his efficiency as a quartermaster and commissary, and on May 13, 1861, he was transferred to the commissary-general's department, with the rank of captain. He served throughout the civil war, receiving the rank of major, Feb. 9, 1863, and March 13, 1865, he was brevetted colonel for faithful and meritorious service. After the war he was chief commissary of Gen. Sheridan's division of the Missouri. On April 14, 1875, he

was appointed brigadier-general and commissary-general of subsistence. He retired July 1, 1890.

Mackay, Andrew J., soldier, born in Caledonia, N. Y., in 1826; died in New York city, Jan. 18, 1901. Before the war he owned a large ranch in Texas, and furnished the regular army with supplies. He was on his way back to Texas in 1861, when Gen. Thomas warned him not to be unsafe for him to return thither. The offer Gen. Thomas made him to appoint him a captain and quartermaster of volunteers and assign him to his own staff was accepted. He served through the war, and was in all the battles in which Thomas's forces were engaged. He was promoted for meritorious service to major, lieutenant-colonel, colonel, and brevet brigadier-general of volunteers. After the war he was interested in the milling business in Minnesota. He afterward had a stock ranch in Nebraska, and then removed to New York.

McKeever, Chauncey, soldier, born in Maryland in 1828; died near Emden, Germany, Sept. 5, 1901. He was graduated at West Point in 1849, and assigned to the 1st Artillery as brevet 2d lieutenant. He was commissioned 2d lieutenant, 3d Artillery, July 27, 1850, and 1st lieutenant, Dec. 24, 1853. Previously to the civil war he was engaged chiefly in frontier duty. July 1, 1861, he was brevetted captain and appointed assistant adjutant-general. He was commissioned captain and assistant adjutant-general, Aug. 3, 1861; major, July 17, 1862; lieutenant-colonel, March 3, 1875; and colonel, Feb. 28, 1887. He was brevetted lieutenant-colonel, Sept. 24, 1864, and colonel and brigadier-general, March 13, 1865, for diligent, faithful, and meritorious services in the adjutant-general's department.

McKellar, Archibald, sculptor, born in Paisley, Scotland, Oct. 23, 1844; died in Bridgeport, Conn., July 4, 1901. He removed to New York city when nineteen years old, and engaged with a firm that made a specialty of metal monuments. His work at once attracted attention. Shortly after the Monumental Bronze Company was formed, about 1880, Mr. McKellar was secured as its sculptor, and removed to Bridgeport. At the time of his death he was superintendent and a director of the company. An immense amount of work came from his hand, and there is scarcely a city of any importance in Europe or America where a piece of his work is not to be found. His statue of James A. Garfield, in bronze, at Wilmington, Del., was chosen in competition, and won for him high praise from the critics and from the family of the dead President. His best-known piece, *Defense of the Flag*, has been copied nearly 1,000 times, and his *Liberty, Justice, Peace, and Honor* all show him at his best and won him national fame. His last work, a masterpiece in bronze, was a four-sided pyramid bearing four panels—a soldier, a sailor, *Liberty*, and the *All-seeing Eye*—erected in Newport, R. I.

McMahon, James, clergyman, born in Ireland in 1837; died in Washington, D. C., April 15, 1901. He was a cousin of Marshal McMahon of France, and after his graduation at the college of Maynooth studied at the Seminary of St. Sulpice, in Paris, and later in Montreal. He also received a musical education, and while in Paris was an organist and a member of an army band. In 1843 he was appointed assistant to the Rev. William Starrs, in St. Mary's Church, New York city. In 1850 he was made pastor of the Church of St. John the Evangelist, which then owned the property upon which St. Patrick's Cathedral now stands. When St. John's was removed to

make way for the building of the cathedral, Father McMahon was placed in charge of the work on the new structure. In 1875 he became pastor of St. Andrew's Church, in Duane Street. In his early days he bought property in upper New York city that afterward largely increased in value. He gave liberally to all the churches with which he was connected, and in 1891 presented to the Catholic University in Washington real estate, chiefly in New York city and Long Branch, N. J., valued at more than \$500,000, with a part of which gift was built McMahon Hall. In consideration of his liberality and his interest in the university, the Pope conferred upon him the title of Monsignor. Father McMahon retired from active duties in the early nineties, and afterward made his home at the university. In 1848 he published a translation of the New Testament based on Challoner's revision of the old Douay Bible, and while pastor of St. John's he planned and superintended the construction of a great pipe-organ.

McQueen, Georgianna M., missionary, born in Longmeadow, Mass., Jan. 6, 1827; died there, Feb. 18, 1901. She was graduated at Mount Holyoke Seminary in 1847, and taught in West Liberty, Va., Harmer, Ohio, Schenectady, N. Y., and Easton, Pa. In 1855 she took passage in a sailing ship for the island of Corisco, western Africa, where, on July 22 of that year, she married the Rev. George McQueen, a missionary. They came to the United States for a short furlough in 1857, and returned to Corisco the following year, leaving their infant son with his grandparents in Longmeadow. In 1859 Mr. McQueen died of coast fever, and, although Mrs. McQueen came to this country for a visit after her husband's death, she returned to Africa and continued her labors till 1865. For many years she was secretary and treasurer of the Longmeadow Historical Society.

McVickar, William Bard, lawyer, born in Irvington-on-Hudson, Oct. 14, 1858; died in Morristown, N. J., March 30, 1901. He was a son of the Rev. William A. McVickar, who for many years was in charge of the Protestant Episcopal church in Nice, France. Mr. McVickar was graduated at Columbia University in 1880, and at the Columbia Law School, and was admitted to the bar in 1882. He studied law in the office of the late Stephen P. Nash, and for several years he was associated with John E. Parsons in the practice of law. In 1897 he organized the firm of Marshall, Moran, Williams & McVickar. Mr. McVickar was a contributor to *Life* and other periodicals, and had published a book of poems entitled *Lays of a Lawyer*.

Magee, Christopher Lyman, politician, born in Pittsburg, Pa., April 14, 1848; died there, March 8, 1901. He studied in the Western University of Pennsylvania, but became a clerk in the office of the comptroller of Pittsburg. His genius for politics and efficiency in official duty secured for him in 1869 the cashiership of the city treasury. Two years later he was elected city treasurer on the Republican ticket, receiving 2,600 more votes than the party's candidate for mayor. He was reelected with three times the majority given at his first election. In 1896 he was nominated for State Senator by both parties, and elected. He was one of the 306 in the convention of 1880 in favor of Gen. Grant's nomination for a third term. Mr. Magee early became interested in the development of natural gas, from which he reaped rich returns, and by employing the money thus acquired laid the foundation of his large fortune. He was largely concerned in the ownership and management of street-railways in

Pittsburg. In 1884 Mr. Magee purchased the *Pittsburg Times*, which he developed into an influential journal, and in 1896 he founded the *Daily News*. He was a trustee or director of many educational and public institutions, and erected for the city of Pittsburg the buildings for the zoological gardens in Highland Park at a cost of \$125,000.

Manly, George E., diplomat, born in Franklin, Tenn., in 1825; died in Washington, D. C., Feb. 9, 1901. After he was graduated at the University of Tennessee, he served in the Mexican War, and at the beginning of the civil war he became 1st lieutenant in the 1st Tennessee Regiment. He participated in the battles of Bull Run, Shiloh, and Chickamauga, and retired at Appomattox with the rank of brigadier-general. When Gen. Grant was nominated for the presidency, he joined the Republican party, and was afterward identified with nearly every campaign. He was delegate-at-large from Tennessee to the national conventions of 1880 and 1888, and he was appointed minister to Colombia by President Garfield and minister to Uruguay and Paraguay by President Harrison.

Markoe, Thomas Masters, surgeon, born in Philadelphia, Pa., Sept. 13, 1819; died in East Hampton, N. Y., Aug. 26, 1901. He was graduated at Princeton in 1836, and at the New York College of Physicians and Surgeons in 1841. In 1839 he became a junior assistant in the New York Hospital, and, with the exception of a short period immediately after his graduation, when he served as Professor of Anatomy in Castleton Medical College, Vermont, and from 1852 to 1854 as Professor of Pathological Anatomy in the University of the City of New York, he was connected with that hospital till his death. He became assistant curator in the Pathological Museum and lecturer on pathological anatomy. From 1852 to 1892 he was attending surgeon, and thereafter consulting surgeon. From 1860 he was a professor in the College of Physicians and Surgeons, till 1870 adjunct Professor of Surgery, from 1870 to 1879 full professor, and from 1879 to 1890 Professor of the Principles of Surgery. At various times he served as attending surgeon to the Nursery and Child's Hospital, the Mount Sinai, Bellevue, and Roosevelt Hospitals, and also as consulting surgeon at Mount Sinai, Woman's, Roosevelt, Orthopedic, St. Mary's, Vassar, and the Nursery and Child's Hospitals and the Northern Dispensary. During the civil war Dr. Markoe served as volunteer surgeon at Fort Monroe, as one of the Board of Examiners of Contract Physicians and Surgeons in 1862, and as visiting surgeon to the New York soldiers' depot, in Howard Street, in 1863. In 1864 he was ordered to Fredericksburg, and later to Belle Plain.

Marsh, Mrs. Caroline Crane, author, born in Berkley, Mass., Dec. 1, 1816; died in Scarsdale, N. Y., Oct. 27, 1901. In 1838 she married George Perkins Marsh, the first United States minister to Italy, and prior to that minister to Turkey. She published in 1857 *The Halig*, or *The Sheepfold in the Water*, a tale of humble life on the Schleswig coast, from the German of Biernatzki, with a biography of the author, and in 1860 *Wolfe of the Knoll*, and *Other Poems*.

Marsh, Lucius Bolles, merchant, born in Danvers, Mass., April 18, 1818; died at North Scituate Beach, Massachusetts, Aug. 14, 1901. He entered a bookstore in Boston when fourteen years old, and fifteen months later accepted employment with Cushing, White & Co., woolen importers. He became a member of the firm in

1839, but retired from it one year later. After various connections he became a partner in 1846 in the firm that was finally known as Marsh, Talbot & Wilmarth. Mr. Marsh retired from business Dec. 31, 1870. In 1862 he recruited the 47th Massachusetts Regiment, known as the Merchant Guard, and on Oct. 30 was made its colonel. He commanded part of Gen. Banks's expedition to New Orleans, and in May, 1863, he received command of the National troops at Camp Parapet. Col. Marsh recruited a company of negroes, which became the nucleus of the 2d Regiment of Engineers. He held this point against a large force of Confederates during the siege of Port Hudson. In his later life he was deeply interested in philanthropic work.

Marshall, John Potter, educator, born in Kingston, N. H., Aug. 11, 1823; died in Medford, Mass., Feb. 5, 1901. He was graduated at Yale in 1844, and for two years thereafter taught in the Baptist Academy, Edinham, N. H. He taught in the Liberal Institute, Lebanon, N. H., for an equal period, and after a short interval of teaching in his native town was invited to the newly established High School in Danvers, Mass., from which he went, in December, 1851, to the High School in Chelsea. Thence he was called in 1854 to become a professor in Tufts College. He was the most active assistant of Dr. Ballou in the organizing of the college, of which he was the first professor appointed. In the beginning he had charge of all the mathematics and science taught, but his duties were afterward limited to the teaching of geology and mineralogy. His small private collection of minerals and fossils, which he brought with him, was the nucleus of the present splendid collections of the college.

Mayo-Smith, Richmond, economist and educator, born in Troy, Ohio, Feb. 9, 1854; died in New York, Nov. 11, 1901. He was graduated at Amherst College in 1875, and studied at the universities of Berlin and Heidelberg from 1875 till 1877. He was appointed assistant in history and political science at Columbia College in 1877; was made adjunct professor in 1878, and Professor of Political Economy and Social Science in 1883. He was also one of the original faculty of the Columbia School of Political Science established for graduate instruction and research work in 1880. His chief work as a teacher was with graduate students in this school, and his special subject was statistics, in which field he was regarded as the highest academic authority in the United States. Men trained by him occupy chairs of political economy at Harvard, Yale, Cornell, and other American universities; others are active as statisticians in the Federal and State service. He was an honorary fellow of the Royal Statistical Society of Great Britain, a member of the International Statistical Institute, and vice-president of the American Statistical Association. He was one of the founders of the American Economic Association and a member of the National Academy of Science. He was an editor of the *Political Science Quarterly* from its establishment in 1886, and a frequent contributor to this and other scientific reviews. His principal published works are *Emigration and Immigration* (1890); *Statistics and Sociology* (1895); and *Statistics and Economics* (1899).

Meehan, Thomas, botanist and horticulturist, born in England, March 21, 1826; died in Philadelphia, Pa., Nov. 19, 1901. He was chiefly self-educated, and was at one time head gardener to Vernon Harcourt, at St. Clair, Isle of Wight. He removed to the United States in 1848, and at his death he was known as one of the fore-

most horticulturists and botanists in the country. He was the first to succeed in flowering the *Victoria regia* in America. He took an active interest in public affairs, serving continuously in the city council of Philadelphia after 1852, and as botanist of the Pennsylvania State Board of Agriculture from its formation till his death. For twenty-three years he was senior vice-president of the Philadelphia Academy of Natural Sciences. He was at one time a member of the Board of Visitors of Harvard University, and he had been elected a member of every important botanical and horticultural society of America and Europe. He contributed many articles to scientific periodicals on subjects of his life work. He was editor of the *Gardeners' Monthly Magazine* from 1859 to 1889, and established, with his sons, *Meehan's Monthly*. For sixteen years he was agricultural editor of *Forney's Weekly Press*. He published *The American Handbook of Ornamental Trees* (1853); *The Flowers and Ferns of the United States* (serial, *Meehan's Monthly*, 1878 to 1891); and many papers on original researches.

Michie, Peter Smith, soldier and educator, born in Brechin, Scotland, March 24, 1839; died in West Point, N. Y., Feb. 16, 1901. He was graduated at West Point in 1863, standing second in his class, was commissioned 1st lieutenant of engineers, June 11, and his first field service was in the operations against Charleston. He afterward distinguished himself in the battle of Olustee, and in May, 1864, he was transferred to the Army of the James, in Virginia, serving first as assistant and afterward as chief engineer up to the capitulation at Appomattox. He was commissioned captain, Nov. 23, 1865, and was brevetted captain and major, Oct. 28, 1864, for gallant and meritorious services in the campaign of 1864; lieutenant-colonel, April 9, 1865, for gallant and meritorious services in the campaign terminating at Appomattox; and brigadier-general of volunteers, Jan. 1, 1865. In 1867 his scientific acquirements led to his appointment as first assistant in the Department of Engineering and Chemistry at West Point, and later as Professor of Natural and Experimental Philosophy, where he served till the time of his death. He received the degree of Ph. D. from Princeton in 1871, of A. M. from Dartmouth in 1873, and of LL. D. from Union College in 1893. He was a member of the Board of Overseers of the Thayer School of Civil Engineering of Dartmouth College after 1871. In 1870 he was a member of the military commission that visited Europe to collect information for the Government. He was the author of *Elements of Wave Motion relating to Sound and Light*; *Life and Letters of Major-Gen. Emory Upton*; *Personnel of Sea-coast Defense*; *Elements of Analytical Mechanics*; *Elements of Hydro-mechanics*; *Practical Astronomy*; and *Life of Gen. McClellan*.

Michler, Francis, soldier, born in New York in 1849; died in Washington, D. C., May 29, 1901. He was graduated at West Point in 1870; commissioned 2d lieutenant, 5th Cavalry, June 15, 1870, and assigned to service in Arizona. He was commissioned 1st lieutenant, Nov. 12, 1876, and captain, May 23, 1888. He saw much hard fighting against the Indians; was present in the actions at Munchos Cañon, Sept. 25, 1872; Red Rock, Dec. 7, 1872; Clear Creek, Jan. 2, 1873; Tonto Creek, Jan. 22, 1873; and in the Mazatzel mountains, March 19, 1873. He was brevetted 1st lieutenant, Feb. 27, 1890, for gallant services in the Munchos Cañon and Tonto Creek engagements. He was made lieutenant-colonel of volunteers, May 9, 1898, and honorably discharged from the volunteer service, May 12, 1899. At his death

he was military secretary to Lieut.-Gen. Miles, with the rank of lieutenant-colonel.

Miller, Abram O., physician and soldier, born in Madison County, Ohio, Oct. 3, 1827; died in Lebanon, Ind., April 25, 1901. He was graduated in medicine at the State University of Kentucky in 1856. At the outbreak of the civil war he organized a company of three-months men for the 10th Indiana Infantry, and was its captain through its term of service. When the 10th Indiana was reorganized for the three years' service, Capt. Miller was made major, and he served in that capacity till Aug. 14, 1862, participating in the battles of Mill Spring and Shiloh and the siege of Corinth. He was then appointed colonel of the 72d Indiana Infantry. When Gen. Wilder was compelled to retire on account of ill health after the battle of Chickamauga he left Col. Miller in command of the famous Wilder brigade, which he commanded from that time till the close of the war, during some of its most arduous campaigns and in some of its severest battles. He was severely wounded while leading the charge on the works at Selma, Ala., and was several months in the hospital in Montgomery. He was brevetted brigadier-general. After the war he returned to the practise of medicine in Lebanon, Ind. For four years after 1868 he was clerk of the circuit court, elected on the Republican ticket. As candidate for State Auditor he was defeated in 1878.

Miller, Adam, Methodist clergyman, born in Maryland in 1810; died in Chicago, Ill., July 29, 1901. He was often called the father of the German Methodist Church in the United States. He was of Pennsylvania German parentage, and was taken in infancy to Ohio. In 1830 he went with the Rev. Joseph McDowell to Knox County, Ohio, and in the autumn of that year he was licensed to preach by the Ohio Conference and assigned to the Nicholas Circuit, Virginia, in the Kanawha district, where he preached for four years. Previous to 1834 he had preached in English, but in that year he began preaching in German, and after that time interested himself almost entirely among the great numbers of Germans that emigrated into that region. In 1835 he was appointed to the Greenville, Ohio, circuit, and in 1837 to the Milford circuit. He was stationed in Cincinnati in 1841-'42, and while there collected the funds for and built the first German Methodist church in that city. In 1843 he was sent to Baltimore to take charge of the German mission work. Soon afterward he left the ministry on account of a throat trouble, and took up the practise of medicine. When nineteen years old he published *Footprints through Nature to the Supernatural*; in 1843, *Origin and Progress of the German Missions in the Methodist Episcopal Church*; and in 1859, *Experience of German Methodist Preachers*.

Miner, James Griffiths, inventor, born in Albany, N. Y., March 27, 1816; died in Milford, Ohio, May 28, 1901. His father was a wealthy iron manufacturer, and the son studied at Edinburgh University. As a young man he went by sea to Texas, where he became a friend of Gen. Sam Houston. He fought under him, and later under Gen. Taylor through the Mexican War. He made a fortune in ranching in Texas and gold-mining in Colorado, and invested it in the iron industry. He built the Cambria Iron-Works, in Johnstown, Pa., in 1855, and is said to have manufactured there the first steel rails produced in the United States. In 1856 he was president of the Harvey Iron and Steel Company, in Mott Haven, N. Y., and later bought a controlling in-

terest in the Tredegar Works, in Richmond, Va. At the beginning of the civil war Miner was placed in charge of the Confederate ordnance department, when the works were appropriated by the Confederate Government as an arsenal, and for a time he served as assistant secretary of the Confederate navy. Later he was in charge of the railroads for the Confederate Government. So great was his confidence in the outcome of the war that he invested his entire fortune in Confederate securities, and after its close found himself penniless. He invented a high-pressure engine, but could not bring it to success. He also had discovered a process for making pulp into boards, and another for converting iron into steel, for which he had received several liberal offers, and with which secret he refused to part. For many years he had lived in abject poverty. A few weeks before his death he was taken to the home of Mrs. L. M. Spencer, and there cared for till his death.

Mitkiewicz, Eugene Stanislaus Kostka de, "Count," adventurer, born in Warsaw, Poland, about 1844; died in Asbury Park, N. J., May 13, 1901. He appeared in New York in the autumn of 1863, where he registered as Count Mitkiewicz, of St. Petersburg. He dressed in the height of fashion, apparently had plenty of money, and represented that his father had sent him out to see the world as a part of his education before he came into the great estates in Russia that would be his inheritance. He made love to many women, and it was not till he had robbed them of their jewels that they discovered his true character. One of these prosecuted him, and he was convicted of grand larceny. Many efforts were made to have him released from the Tombs, but he remained there several weeks, finally getting out on bail on condition that he would join the National army. His military career was very brief. In July, 1864, he disappeared from Washington, where he was stationed, after robbing the wife of the colonel of a New Jersey regiment of a gold watch and the costly jewels that she had worn to a *fête* given in her honor. In 1874 he became acquainted on a steamship with the daughter of a banker of Rochester, N. Y., and after a year, in which her parents endeavored in every way to show her his real character and to persuade her from such an act, married her against their will. They had been married but a short time when the "Count" got possession of her fortune and spent every cent of it. The three children that were born were taken possession of by the grandparents after the mother had died of nervous prostration. In 1879 he induced a wealthy merchant of Baltimore, named Cooke, to join with him in the coal business. This was a failure, and in the end Mitkiewicz was arrested for attempting to defraud his partners by having a judgment entered against himself and in favor of another man. He escaped conviction on a technicality, and soon afterward attempted to defraud William C. Turnbull, inventor of the long-distance telephone, of his patents. Mitkiewicz was beaten in the courts, but he always claimed the ownership of the telephone. In 1887 he induced Wharton Barker, of Philadelphia, who was interested in introducing the telephone into China, to advance a large sum of money, representing that he, Mitkiewicz, had great influence with the Chinese Government, and that the Chinese Government was about to grant important concessions to him. He secured a letter from the Chinese minister in Washington, and in July, 1887, he arrived in China. He secured the telephone concession, and was about to secure a

large banking concession, when the newspapers were let into the scheme through the ingenuousness of the United States consul in Shanghai, and, Mitkiewicz's record being shown, the concessions were withdrawn. On his return he represented to Barker that the concessions had been granted, and that \$25,000,000 were to be put into the scheme, but then Barker would have nothing to do with him. Mitkiewicz sued Barker for breach of contract, and though he lost in the courts he succeeded in dragging in several high officials of the Chinese and United States governments. He later, in Washington, lived in luxury with "Shoe-box" Miller, an ex-convict, whom he introduced to Miss Mosby. Miller was about to marry Miss Mosby when the plot was discovered, and in his attempt to find Miller, her brother came upon Mitkiewicz and fired at him, but missed his mark. The "Count" afterward eloped with a Baltimore woman, lived for a time in New York, and in 1894 married the twenty-two-year-old daughter of a wealthy farmer.

Monroe, Halsey H., agriculturist, born in Thomaston, Me., Nov. 13, 1827; died there, Jan. 17, 1901. He was educated in the public schools in Thomaston and at Auburn Academy. After several years in Scotland he engaged in the lime business in Rockland, Me. In 1867 he was elected to the Maine Legislature. In 1868 he was returned and served on the Committee on Elections. In 1879 he was a member of Gov. Garcelon's council, and was chairman of the Committee on County Officers. At the time of the famous "State count-out," when the Governor's term expired in the midst of the trouble, Mr. Monroe, as senior member of the council, occupied the Governor's chair two weeks. In 1890 he was again sent to the Legislature. He owned one of the best farms in Maine, and was the inventor of the rotary harrow now in almost universal use. He owned large tracts of timber land in Arkansas and Virginia.

Moore, John, Roman Catholic bishop, born in Castletown, Delvin, County Westmeath, Ireland, June 27, 1835; died in St. Augustine, Fla., July 30, 1901. He removed in 1848 to Charleston, S. C., and one year later entered the Collegiate Institute in that city. After some years of preparation there he went abroad and studied philosophy and the classics in France and theology in Rome. He was ordained priest, April 9, 1860, and before leaving Rome he received the cap of Doctor of Theology. Returning to Charleston in October, 1860, he was made first assistant, and later pastor of the cathedral in that city. During the civil war he gave much time to the sick and wounded of both armies. In 1865 he became pastor of St. Patrick's Church in Charleston, and in 1872 vicar-general of the diocese of Charleston. On May 13, 1877, he was consecrated Bishop of St. Augustine, Fla. Under his administration the Church in Florida made rapid and substantial advancement. Bishop Moore took great interest in the negro race, and established several associations for its benefit.

Moore, William Philip, actor, born in Norfolk County, Ontario, Canada, May 13, 1858; died in Baltimore, Md., Sept. 28, 1901. He first appeared on the stage with James H. Reilly, in 1877, in *The Broom-maker*, and later with John F. Leonard in *Hogan's Alley*. From 1878 to 1881 he was engaged by Henry Jarrett to play with George Topack in *Fun on the Bristol*. In 1882 he married Belle Vivian, and as Moore and Vivian they entered upon vaudeville. In 1884 they were in Robert Gratan's company in *Wanted*, a *Partner*; from 1885 to 1891, with their own com-

pany, they played *Jonathan*, or *The Law of the Land*. In 1891 Mr. Moore originated the part of Joshua Spruceby. In 1893 he played with J. J. Sullivan in *The Black Show*. Mr. Moore then tried repertoire, playing *Yankee Pluck*, *Solon Shingle*, *Joshua Night Mare*, and *Our Jonathan*. In 1894 Moore and Vivian went back into vaudeville and played at the Auditorium in Baltimore several weeks. In 1898 Mr. Moore opened a theatrical agency.

Moran, Edward, artist, born in Bolton, England, Aug. 19, 1829; died in New York city, June 9, 1901. He was the eldest son in a large family, two others of whom, Thomas and Peter, also attained eminence as artists. His parents were hand-loom weavers, and as a boy Edward worked at this trade. In 1841 the family removed to the United States, and settled first in Maryland and later in Philadelphia. Moran continued to work at the loom until he was twenty-two, when letters of introduction to Paul Webber and James Hamilton were obtained for him. He set up a studio in Philadelphia, and made rapid progress. His paintings were soon admitted to important exhibitions. In 1862 he studied in the Royal Academy, London, for a few months. In 1869 he removed to New York city. He painted many landscapes and pictures of animals, but was best known as a marine painter. His most important work consists of 13 paintings representing epochs in the marine history of the United States. The first of this series—*The Ocean, the Highway of all Nations*—a large canvas representing a single wave with two or three sea-gulls in the foreground, is said by critics to be his masterpiece. Other well-known pictures are *The Statue of Liberty on the Day of the Unveiling*, *New York Harbor*, *The White Cliffs of Albion*, *The Launching of the Life-boat*, and *Return of the Fishers*.

Morant, Fanny, actress, born in Hampshire County, England, in 1821; died in Brighton, England, Nov. 1, 1901. She was educated in a convent in Paris. At the age of sixteen she was thrown upon her own resources by the death of her father, and after serving as a governess for a short time made her first appearance on the stage as walking lady, and as understudy for the leading women of the Drury Lane stock company. In 1856 she was brought to the United States for an eight months' tour, and at its conclusion decided not to return to England. In the season of 1857-'58 she made a starring tour, and on her return to New York she was engaged as leading woman at the old Broadway Theater, and made her first appearance there, Oct. 18, 1858. The following summer she played five months in San Francisco. Jan. 28, 1860, she married Charles Smith, a wealthy manufacturer, of Warren, R. I., and in the same year was engaged by James Wallack to play the governess in *The Romance of a Poor Young Man*. She remained with the Wallack company till the spring of 1869, and in August of that year appeared as the nurse in *Romeo and Juliet* at Booth's Theater. She subsequently played *Gretchen* to Joseph Jefferson's *Rip Van Winkle*, and made notable successes as the *Queen in Hamlet* and as *Lady Macbeth* with Edwin Booth. In June, 1870, she became a member of Augustin Daly's company at the Fifth Avenue Theater, appearing first as Countess Clothilde in *Sardou's Fernande*; in the spring of 1871, with Charles Mathews, in *Not such a Fool as he Looks*; and later as Olivia Alston in *Saratoga*. She remained at the old and new Fifth Avenue Theaters till 1874. She then became a member of the Union Square Theater stock company, and appeared

there, Aug. 19, 1874, as Mrs. Reid in *Jane Eyre*; in November, 1875, as Countess de Vernay in *Rose Michel*; and a month later as Countess de Linieres in *The Two Orphans*. She last appeared in 1879 as the Countess in *The Danicheffs*. After her retirement from the stage she lived in Providence, R. I.

Morse, James C., lawyer, born in Natchitoches, La., in 1849; died in New Orleans, La., Feb. 11, 1901. At the outbreak of the civil war he entered the Confederate army in the engineers' department, and he served throughout the struggle. In 1880 he was appointed assistant adjutant-general of Louisiana, and in 1884 assistant attorney-general. In the antislavery campaign of 1892 he was one of the committee of seven appointed to manage the election, which resulted in a split of the Democratic party. In recognition of his services he was appointed judge of the Criminal District Court of New Orleans. His term expired in 1900, and he was reelected.

Mosby, Tom, negro philanthropist, probably more than a hundred years old; died in New Decatur, Ala., July 16, 1901. Before the civil war he was a slave on the Mosby plantation. After the war, by hard work he and his wife soon accumulated \$500, with which they bought and improved 40 acres in Moulton Heights, now a suburb of New Decatur. In the boom of 1886 they sold half their land at a good price, bought land farther out, and put a snug sum in the bank. During the years after the war "Uncle Tom" and his wife, in times of need, befriended and cared for many of the old ex-slaves of the plantation on which they had toiled in former days, as well as many others of their race. They had no children, but their home was converted into a sort of orphanage, and many well-to-do negroes owe their condition to the start they received within its walls. Uncle Tom left a considerable fortune, to be used in charitable work among the negroes.

Mott, George Scudder, clergyman and author, born in New York city, Nov. 25, 1829; died in Orange, N. J., Oct. 12, 1901. He was graduated at New York University in 1850, and at Princeton Theological Seminary in 1853. He received the degrees of A.M. and D.D. from Princeton in 1874. In October, 1853, he became pastor of the Second Presbyterian Church, of Rahway. He resigned in 1858, and after a year's rest accepted a call to the Presbyterian Church in Newton, N. J., and worked there ten years. During that period the civil war occurred, and Dr. Mott took strong ground as a Union man. In 1869 he was called to the Presbyterian church at Flemington, N.J., and he remained there as pastor twenty-six years. He was elected a director of Lincoln University, Oxford, Pa., in 1872, and served in that capacity many years. He was particularly interested in the cause of Sabbath observance, and was ten years president of the New Jersey Sabbath Union, and he was one of the founders of the American Sabbath Union, its vice-president till the death of Elliott F. Shepard, and succeeded him as its president. He contributed extensively to the religious press, and his three books—*The Prodigal Son*, *The Resurrection of the Dead*, and *The Perfect Law*—published between 1866 and 1872, had a large sale and were translated into several languages. A tract, *Holding on to Christ*, published by the American Tract Society, reached 250,000 copies.

Mount, James Atwell, ex-Governor of Indiana, born in Montgomery County, Indiana, March 23, 1843; died in Indianapolis, Ind., Jan. 16, 1901. He was a farmer's son, and up to the beginning

of the civil war had received only such education as could be obtained from country schools. He enlisted in 1862 as a sergeant in the 72d Indiana Infantry, and served till the end of the war in Wilder's brigade. He afterward attended for one year the Presbyterian Academy, in Lebanon, Ind. He owned a farm of 500 acres in Montgomery County. In 1888 he was elected to the State Senate, and in 1890 he was nominated for Congress, but was defeated. He was elected Governor of Indiana on the Republican ticket in 1896, his term of office expiring Jan. 1, 1901. Gov. Mount's success as a farmer and his ability as a public speaker brought him often as a lecturer before agricultural colleges and farmers' institutes, and this in his campaign for Governor brought him the hearty support of the farmer vote. He created much comment in April, 1900, by refusing to extradite Gov. Taylor, of Kentucky, who was wanted in his own State in connection with the Goebel assassination.

Mrak, Ignatius, Roman Catholic bishop, born in Hotoula, parish of Poljane, Carniola, Austria, Oct. 10, 1810; died in Marquette, Mich., Jan. 2, 1901. He was ordained Aug. 13, 1837, and served as parish priest in Carniola till 1845, when he was called to the United States for mission work among the Indians of northern Michigan. He and Bishop Baraga established many missions. He served as vicar-general of Sault Ste. Marie from 1860 to 1869, and as Bishop of Marquette and Sault Ste. Marie from 1869 till 1878, when he resigned that office because of increasing infirmities. After 1881 he was designated Titular Bishop of Antioch.

Muhlenberg, Frederick Augustus, educator, born in Lancaster, Pa., Aug. 25, 1818; died in Reading, Pa., March 21, 1901. He was graduated at Princeton in 1836, and was a professor in Franklin College, Lancaster, until 1850. In the same year he became Professor of Ancient Languages in Pennsylvania College, Gettysburg, which chair he held until 1867. In that year Muhlenberg College was established, and he was elected its first president. In 1876 he resigned the presidency and accepted the professorship of Greek in the University of Pennsylvania. Here he could again devote himself to those scholarly pursuits which were in harmony with his natural inclinations. In 1888 he resigned his chair in order to rest. In 1891 he accepted temporarily the presidency of Thiel College, Greenville, Pa., at a critical period of its history, and his presence was immediately followed by the strengthening of confidence in the college and by a new spirit of interest on the part of the students. In 1893 he resigned and removed to Reading. Dr. Muhlenberg was ordained to the office of the ministry in the Lutheran Church in 1854. He contributed many articles on historical and educational subjects to the periodicals of the Church.

Murphy, Thomas, politician, born in Limerick, Ireland, July 20, 1821; died in New York city, Aug. 17, 1901. He removed to the United States and engaged in the fur business in New York city. He entered politics as a Whig, and on the organization of the Republican party allied his fortunes with it and became an active worker. In 1866 he was elected to the State Senate. He was a personal friend of President Grant, and in 1870 was appointed collector of the port of New York. He resigned in November, 1871, on account of political attacks by the Greeley faction. Later he was an unsuccessful candidate for Congress. His time in later years was devoted to the breeding of fine horses on his farms at Deal, N. J.

Murray, Randolph, actor, born in England about 1840; died in New York city, Aug. 23, 1901. He was brought to the United States by his parents, and when twenty years of age went upon the stage. He acted chiefly in melodrama, appearing in later years as Charles Creston in *The Sleeping City*, George Marston in *The Derby Mascot*, and Uncle Cesaire in *Sapho*. He served as a gunner in the United States navy in the civil war, and during the Spanish-American War he was an officer in the Rough Riders, and was severely wounded in the Santiago campaign.

Musick, John Roy, author, born in St. Louis County, Missouri, Feb. 28, 1849; died in Omaha, Neb., April 14, 1901. He was graduated at the Northern Missouri State Normal School in 1874, was admitted to the bar in 1877, and practised law, chiefly in Kirksville, Mo., till 1882, when he devoted his time to journalism and authorship. His first story was *Justice Courts*, printed in *Potter's American Monthly* in 1878. He was the author of *The Banker of Bedford*; *History Series of Missouri*; *Calamity Row*; *Brother against Brother*; *The Mysterious Mr. Howard*; *Hawaii: Our New Possessions*; *The War with Spain*; *Lights and Shadows of the War with Spain*; *His Brother's Crime*; *Cuba Libre*; and the *Columbian novels* (*Columbia*, *Estevan*, *St. Augustine*, *Pocahontas*, *The Pilgrims*, *A Century too Soon*; *A Story of Bacon's Rebellion*, *The Witch of Salem*, *Braddock*, *Independence*, *Sustained Honor*, *Humbled Pride*, *Union*), a series of 12 novels in which he attempted to cover the history of the United States. These were written in about twenty-four months, in 1891 to 1893, in order to complete the series before the closing of the *Columbian Exposition* in Chicago. The newspapers gave Mr. Musick considerable notoriety through the publication of supposed plagiarisms of Dickens and *St. Pierre* that they said were to be found in these novels.

Negley, James Scott, soldier, born in East Liberty (now East End, Pittsburg), Pa., Dec. 22, 1826; died in Plainfield, N. J., Aug. 7, 1901. He was educated in the public schools and at the Western University of Pennsylvania. He served with the 1st Pennsylvania Regiment through the Mexican War. He then engaged in manufacturing and railroad building. At the outbreak of the civil war he was brigadier-general of the 18th Division of Pennsylvania militia. In ten days, in April, 1861, he organized, clothed, and equipped a brigade for three months' service. He was commissioned brigadier-general of volunteers in April, 1861, and served with distinction until mustered out, Jan. 19, 1865. At Laverne, Oct. 7, 1862, he defeated the Confederates under Anderson and Forrest. For gallantry in action at the battle of Stone River he was made major-general and placed in command of the 18th Division, 14th Army Corps. He led the forward movement upon Tullahoma, and in the battle of Chickamauga he held Owen's Gap. After the war he engaged in business in Pittsburg, was president and vice-president of several railroads, and was connected with many large enterprises. He was a member of Congress (elected as a Republican) from 1869 to 1873, from 1875 to 1877, and from 1885 to 1887. He was for fifteen years a member of the Board of Managers of the National Home for Volunteers; and was president of the National Union League of America.

Nevin, Ethelbert, composer, born in Edgeworth, Pa., Nov. 25, 1862; died in New Haven, Conn., Feb. 17, 1901. He was a son of Robert P. Nevin, the author, who early recognized his son's artistic taste and permitted him to devote his life

to music. He studied first in Pittsburg, and in 1884 went to Berlin to study under Karl Klindworth. He also studied under Hans von Bülow, and in 1887 he returned to the United States. He had his studio in Boston, and from time to time appeared in public, though he was best known through the popularity of his songs. In 1892 he spent a year in Paris coaching opera-singers. The following year he traveled in Algiers and Italy, and for some time afterward he resided in Florence and Venice. His last appearance in New York was in 1897, when, with Mrs. Julie Wyman, he gave a recital of his songs at the Carnegie Lyceum. In 1900 he removed to New Haven, Conn. When eleven years old Mr. Nevin composed a polka; *The Rosary*, and his serenade, *Good-night, Good-night, Beloved*, were written when he was thirteen; and two of his best-known pieces, *Narcissus*, and *Oh, that we Two were Maying*, when he was but fifteen. *May in Tuscany* and *A Day in Venice* were composed in Italy. Among his many popular songs are: *Bedtime Song*; *Cradle Song*; *I once had a Sweet Little Doll*; and *Milkmaid's Song*. His songs are more popular than those written by any other American composer. *Narcissus*, one of a series of water sketches, always regarded by Mr. Nevin as one of his most trivial compositions, is played in almost every country of the world, and has sold more than 125,000 copies.

Newell, Robert Henry (Orpheus C. Kerr), author and humorist, born in New York city, Dec. 13, 1836; died in Brooklyn, N. Y., about July 1, 1901. After receiving an academic education he engaged in newspaper work. He was literary editor of the *New York Mercury* from 1858 to 1862; was on the staff of the *New York World* from 1869 to 1874, in which he edited a column of social studies; and was editor of a weekly paper, *Hearth and Home*, from 1874 to 1876. He wrote the *Orpheus C. Kerr letters* on the civil war, which were published in 4 volumes (1862-'68), and were a great success. He was also for a time war correspondent of the *New York Herald*. In recent years he had lived quietly in New York city, where he took an active interest in the Society for the Prevention of Cruelty to Animals. He attracted considerable unpleasant public attention by his marriage in July, 1863, to Adah Isaacs Mencken (*Dolores Adios Fuertes*), the author of *Indigine* and *Infelicia*, who had been divorced from her second husband, John C. Heenan, the prize-fighter, the year before, and from whom Mr. Newell was divorced in 1865. Mr. Newell was the author of *The Palace Beautiful* and *Other Poems* (1865); *Avery Glibun*, or *Between Two Fires*, an American romance (1867); *The Cloven Foot*, an adaptation of Edwin Drood to American scenes and American readers (1870); *Versatilities*, poems (1871); *The Walking Doll*, a novel of New York life (1872); *Studies in Stanzas* (1882); *There was once a Man* (1884); *Smoked Glass*; and another volume of poems.

Newell, William Augustus, ex-Governor of New Jersey, born in Franklin, Ohio, Sept. 5, 1817; died in Allentown, N. J., Aug. 8, 1901. He was graduated at Rutgers College in 1836, and in medicine at the University of Pennsylvania in 1839. He received the degree of LL.D. from Rutgers in 1871. He was elected as a Whig to Congress in 1846, and was reelected in 1848, and served a third time from 1865 to 1867. While in Congress he formed a friendship with Abraham Lincoln, and was family physician to the President during his occupancy of the White House. Dr. Newell was the founder of the Government

life-saving service, planning the system and introducing the bill that resulted in its establishment in 1848. The first test was on the New Jersey coast, between Sandy Hook and Toms River. He also invented the system of securing connection with a wrecked vessel by means of a shot attached to a line and fired from a mortar. Other important public works that were due to his labors or his suggestion were the building of the Delaware breakwater; the establishment of the United States Agricultural Bureau (later made the Department of Agriculture); and the purchase of the Mount Vernon estate for agricultural purposes. He was Governor of New Jersey from 1857 to 1859. He was inaugurated in the midst of a heavy snowstorm that obstructed the roads, but, accompanied by a colored servant, he walked from Allentown to Trenton, 18 miles, in order not to postpone the ceremony. In his term the Democratic Senate refused to confirm his appointment of Henry W. Green as Chancellor, and for a year the State was without a Chancellor. He was superintendent of the life-saving service in New Jersey from 1860 to 1864. He was again a candidate for Governor in 1876, but was defeated by Gen. George B. McClellan. He was Governor of Washington Territory from 1880 to 1884, and in the latter year was made Indian inspector. He served as resident surgeon of the Soldiers' and Sailors' Home, State of Washington, from 1894 to 1898.

Nicolay, John George, author, born in Essingen, Bavaria, Feb. 26, 1832; died in Washington, D. C., Sept. 26, 1901. The family emigrated to the United States in 1838, going first to Cincinnati



by way of New Orleans and the Mississippi river, and afterward successively to Indiana, Missouri, and Pike County, Illinois, where the father rented and repaired an old grist-mill, and went into business with his sons. In these wanderings young Nicolay spent about two months in the public schools of Cincinnati and St. Louis. Thrown on his own resources at the age

of fourteen, he lived for a while with an older brother and clerked in a store in Whitehall, Ill., and when about sixteen he secured a place in the office of the Pike County Free Press, in Pittsfield, Ill. He remained with this paper till 1856, and was successively journeyman, partner, publisher, editor, and proprietor. As an editor he soon became a political power in the State. He refused flattering offers from the newspapers of Chicago and St. Louis, and took an active part in the formation of the Anti-Nebraska and Republican parties. At the close of the Fremont campaign in 1856 Mr. Nicolay sold his paper and became a clerk in the office of the Secretary of State at Springfield, Ill. When Lincoln was nominated for the presidency he appointed Nicolay his private secretary. After the election the correspondence of Mr. Lincoln increased so much that it was necessary to appoint an assistant, and Mr. Nicolay chose for this place John Hay, the present Secretary of State, who was then a young law student in Springfield. During the first presidential term Nicolay and Hay occupied the same room at the White House together,

performing the laborious and often delicate duties that fell to them, and enjoying the closest confidence of President Lincoln. During this time they formed the plan, with the approval of Mr. Lincoln, of writing his biography, which design they carried out later in collaboration. Shortly before his assassination, the President appointed Mr. Nicolay United States consul at Paris, and appointed Mr. Hay secretary of the American legation there. Mr. Nicolay held that office until the spring of 1869. Upon his return to Washington he lived in retirement until 1872, when he was appointed marshal of the Supreme Court of the United States, and he held that office fifteen years. Mr. Nicolay and Mr. Hay began the active work of writing their biography of Lincoln in 1874; they had spent six years in gathering and arranging their material. Its serial publication was begun in the Century Magazine in November, 1886, and continued until February, 1890. In the latter year the complete work, with many important chapters not included in the serial publication, was issued in ten volumes. Messrs. Nicolay and Hay also collected, catalogued, and edited Abraham Lincoln's Complete Works (1894). In addition, Mr. Nicolay wrote in 1881 *The Outbreak of the Rebellion*, the first volume of a series entitled *Campaigns of the Civil War*. Mr. Nicolay also wrote the article on President Lincoln in the *Encyclopædia Britannica*, and contributed numerous articles to American magazines. He was a lover of art and music, and a poet of unusual merit, and received many patents.

Ninde, William Xavier, Methodist Episcopal bishop, born in Cortland, N. Y., June 21, 1832; died in Detroit, Mich., Jan. 3, 1901. He was graduated at Wesleyan University, Middletown, Conn., in 1855, and from that institution received the degree of D. D. in 1874, and from Northwestern University the degree of LL. D. in 1892. He taught in Rome Academy during the year after his graduation, and was then ordained to the Methodist ministry. He joined the Rock River Conference, and in 1861 was transferred to the Cincinnati Conference. In 1870 he was transferred to the Detroit Conference and stationed at the Central Methodist Episcopal Church, in Detroit, where he served till 1873. In the latter year he was elected to the chair of Practical Theology in Garrett Biblical Institute, in Evanston, Ill., and in 1879 he became president of that institution. In May, 1884, he was elected to the Board of Bishops of the Methodist Episcopal Church by the General Conference.

Nordhoff, Charles, author, born in Erwitte, Westphalia, Prussia, Aug. 31, 1830; died in San Francisco, Cal., July 15, 1901. He came with his parents to America in 1835, and attended school in Cincinnati, where he was apprenticed to a printer in 1843. In 1844 he went to Philadelphia to work in a newspaper office, but soon shipped in the United States navy and served three years, making a voyage round the world. He remained at sea in the merchant, whaling, and mackerel fishery service till 1853, and was afterward employed in newspaper offices in Philadelphia and Indianapolis. From 1857 till 1861 he was an editor in a publishing house in New York. From 1861 till 1871 he was on the staff of the New York Evening Post, and subsequently he contributed to the New York Tribune. He traveled in California and Hawaii in 1871-73, and after 1874 was a special correspondent of the New York Herald. He edited an American edition of Kern's *Practical Landscape Gardening* (1855), and was the author of the following books: *Man-of-War Life* (1855); *The Merchant Vessel* (1855); *Whal-*

ing and Fishing (1856); Nine Years a Sailor (1857); Stories from the Island World (1857); Secession is Rebellion (1860); The Freedmen of the South Carolina Sea Islands (1863); America for Free Working Men (1865); Cape Cod and All Along Shore (1868); California for Health, Pleasure, and Residence (1872); Northern California, Oregon, and the Sandwich Islands (1874); Politics for Young Americans (1875); The Communitistic Societies of the United States (1875); The Cotton States in the Spring and Summer of 1875 (1876); God and the Future Life (1881); and Peninsular California (1888).

Nugent, Robert, soldier, born in Kilkeel, County Down, Ireland, in 1824; died in Brooklyn, N. Y., June 20, 1901. He emigrated to the United States when a boy, and in 1853 became a member of the 69th New York Regiment, and at the time of the outbreak of the civil war was its lieutenant-colonel. The regiment was one of the first to respond to President Lincoln's call for troops. It went to the front in April, 1861; fought in the first battle of Bull Run; returned to New York, and was mustered out Aug. 3. Nugent was commissioned captain in the regular army Aug. 5, and was assigned to the 13th Infantry. In October Capt. Nugent obtained a leave of absence, and returning to New York, organized the 69th New York Volunteers and became its colonel. In command of this regiment Col. Nugent served in the battles on the Peninsula and at Antietam and Fredericksburg. At Fredericksburg he received the wound that finally caused his death. A short time after this battle he was sent home to recuperate. He set out to rejoin his regiment, but was informed that he had been appointed provost marshal for the Southern District of New York. He had charge of this district during the draft riots, and took command of the troops. The wrath of the mob turned against him, and his home was burned to the ground. He was brevetted major, June 27, 1862, for gallant and meritorious services in the battle of Gaines Mill; lieutenant-colonel, Dec. 13, 1862, and colonel, April 2, 1865, for similar services at Fredericksburg; and brigadier-general of volunteers, March 13, 1865, for faithful and meritorious services during the war. In 1865, after the 69th had been mustered out, Gen. Nugent rejoined his regiment, the 13th Infantry. He served with this regiment until June 10, 1876, when he was made a major, and transferred to the 24th Regiment. In these two regiments he gained a reputation as an Indian fighter. He was retired March 20, 1879, and afterward resided in New York.

Osborn, Luther Washington, consul, born in Ithaca, N. Y., in November, 1843; died in Apia, Samoan Islands, Oct. 27, 1901. He served with the 142d New York Volunteers in the civil war, and was commissioned 1st lieutenant for meritorious services. He studied law and was admitted to the bar in Rochester, N. Y., in 1868, and in 1869 he located in Nebraska, where he practised for twenty-eight years. He was a delegate to the Republican National Convention in 1876, and a member of the Republican National Committee from 1876 to 1880, and was a member of the State Senate from 1873 to 1875. He was appointed consul-general in Samoa, July 26, 1897, with the additional duties of consul-general for Nukualofa, capital of the Tonga group of islands. In Samoa, in the troublesome times preceding the partition, he obtained the confidence of the natives and of the representatives of the foreign powers, and alone of all seemed to arouse no opposition. He was dean of all the consular or diplomatic boards in 1899, and till March 1,

1900; dean of representatives acting as and for king and council, May, 1899, to March 1, 1900; and chief justice of Samoa, May, 1899, to March 1, 1900.

Palmer, Hugh Poulson Frazer, war correspondent, born in London, England, March 1, 1844; died in Boston, Mass., Jan. 20, 1901. At the age of eighteen he entered the employ of the Lloyds, and for twelve years continued in its service. He raised 17 wrecks before he was nineteen years old. He was a secret-service agent in the employ of the Spanish Government during the Carlist uprising, and through his efforts the plotters, with their arms, were surrendered. For this and other services he was rewarded by the Queen of Spain, and he also received official recognition from his own Government. He removed to the United States in 1882. During the Turkish War he was special correspondent to the London Times, writing under the pseudonym of Warhawk. Capt. Palmer spoke fluently 8 languages.

Parent, Marie (Mary Ann McCoskey), educator, born in Liverpool, England, in 1817; died in New Orleans, La., in 1901. She early removed to New Orleans, where she married a creole, Francis Parent. She was principal of the first girls' public schools in the city, and resigned to establish Parent's Academy, which at the breaking out of the civil war was one of the largest and best-known secondary schools in the South. After the occupation of New Orleans by the National forces Mme. Parent went to Cuba, and in Havana established the College de Maria for girls, which she conducted for twenty-five years, afterward returning to New Orleans.

Parker, Edwin W., Methodist Episcopal bishop, born in St. Johnsbury, Vt., Jan. 21, 1833; died in Naini Tal, India, June 4, 1901. He was graduated at the Concord, N. H., Biblical Institute in 1857, and for two years was a pastor in the Vermont Conference. He was ordained deacon and elder under the missionary rule at the New England Conference in 1859, and sailed for India. He was first assigned to the district of Bijnor, and later to Moradabad. When the India Conference was organized in 1864 he was appointed presiding elder, and he filled this place, with the exception of three years, until he was elected bishop by the General Conference of 1900.

Parker, Laura Wolcott (Jackson), army nurse, born in Newark, N. J., May 5, 1829; died in Boston, Mass., Jan. 9, 1901. In 1861 she went South as a nurse on the hospital steamer Daniel Webster, under the direction of the Sanitary Commission, together with Miss Abbie and Miss Georgie Woolsey. She married Charles H. Parker, of Boston, in 1864, and afterward resided in that city, where she was interested in philanthropic work. For seven years she was president of the Massachusetts Indian Association.

Parsell, Henry Van Arsdale, philanthropist, born in New Brunswick, N. J., Sept. 3, 1833; died in New York city, May 29, 1901. When a young man he was employed in the jewelry house of Fellows, Van Arsdale & Cooper, and later, as a member of the firm of Ball, Barnard & Parsell, engaged in the same business. As the greater number of the firm's customers were in the South, it was forced to discontinue business when the civil war broke out. Mr. Parsell then became assistant secretary of the Young Men's Christian Association, and about the same time was made paying-teller of the North River Savings-Bank. He was afterward secretary of the bank, serving till 1889, when he resigned to administer the large estate and conduct the business of his brother-in-law, F. Norris Peters. After 1895 he served as

a director of the Society for the Prevention of Crime. He was treasurer of the New Amsterdam Eye-and-Ear Hospital, a director of the North River Savings-Bank, a member of many clubs, and was actively connected with the American Museum of Natural History, the Metropolitan Museum of Art, the New York Botanical Gardens, and the Society for the Prevention of Cruelty to Animals. During his later years almost his entire income was devoted to charitable work. His favorite method was to open an account for a young man in the North River Savings-Bank, admonishing him to deposit something every week or every month. If this was done, Mr. Parsell would from time to time send for the bank-book and add to the amount.

Parsons, Cornelius Rice, legislator, born in York, N. Y., May 22, 1842; died in Rochester, N. Y., Jan. 30, 1901. His father, Thomas Parsons, who afterward became well known in the politics of the State and was a member of the

Senate at Albany, removed to Rochester in 1845. He had a large lumber business. The son received the best education that the schools of Rochester could give him, and then took part in his father's business. He was elected a member of the common council in 1867, 1868, 1870, and 1874, and in this service acquired a popularity that led to his candi-



dacy for the mayoralty in 1876. He was elected, and he retained the office, by successive elections, fourteen years, being perhaps the most popular mayor that the city ever had. In 1891 he was elected to the Assembly, and a year later to the State Senate, where he held his seat by successive elections to the end of his life. He served on many important committees, doing a great deal of hard work in the Legislature, but did not often speak there, though he could make a good speech on occasions. His popularity was largely due to his genial nature and his approachableness. As mayor he was unfailing in consideration for the poor and ignorant, not simply those who needed help from the city, but those who needed advice and guidance. It is said that all old working men or women who were troubled over water rates, or assessments, or proposed improvements, and called at the mayor's office to ask for information—and many of them had a wise impulse to go there—were sure of a welcome. Their grievances were heard with patience, and Mr. Parsons, not content with advising them what to do, or where to go, would step out with them to the office in the city hall, where they should lodge their complaint, and recommend instant attention. A Rochester journal opposed to Mr. Parsons in politics, said of him: "The secret of his great popularity was to be found, not in one but in several admirable characteristics—in his unfailing amiability, in his untiring efforts to oblige his political friends, and in his stanch support of the interests which he was chosen to represent. In the mayoralty he demonstrated to the satis-

faction of the people that he had the city's interests at heart and could do most effective work in furthering those interests. Therefore he was chosen seven times as the city's chief executive."

Passavant, William Alfred, philanthropist, born in Pittsburg, Pa., Jan. 23, 1857; died near that city, July 1, 1901. He was graduated at Muhlenberg College in 1875, and in 1879 at the Philadelphia Theological Seminary, and was ordained to the ministry of the Lutheran Church. He was pastor six years of congregations near Pittsburg, and one year of Christ Church, in that city. With his father he established in 1881 a biweekly church paper, *The Workman*, of which he was manager and associate editor six years, and later owner and editor until it was merged into *The Lutheran*. He was superintendent of English home missions of the General Council from July 1, 1889, until 1894. In the latter year his father, who had established numerous hospitals, orphanages, and other institutions in the United States, died and bequeathed to his son the care and management of these charities. The younger Passavant took up the work, and with ceaseless energy carried it on six years, when he too broke down under the burden. These institutions are: Hospitals at Jacksonville and Chicago, Ill.; hospital and deaconess institution at Milwaukee, Wis.; hospital at Pittsburg, Pa.; orphanage at Zelienople, Pa.; and home for epileptics at Rochester, Pa., with property valued at \$630,000. Both father and son were instrumental in establishing Thiel College, at Greenville, Pa., and the Lutheran Theological Seminary, at Chicago, with property valued at \$225,000, besides indirectly assisting in the founding of other charitable institutions.

Paton, John, philanthropist, born in Ancrum, Scotland, May 26, 1831; died in London, England, March 30, 1901. He was graduated at the University of Edinburgh, and entered the employ of a firm of Liverpool merchants, and later became a clerk in the Bank of British North America in London. He was sent to Kingston, Canada, as an agent of the bank, and in 1869 assumed the duties of its agency in New York city. He continued in this capacity till 1872, when with Morris K. Jesup he established the firm of M. K. Jesup, Paton & Co., which name was subsequently changed to Jesup, Paton & Co., and in 1884 to John Paton & Co., on the retirement of Mr. Jesup. In 1892 Mr. Paton retired and became a partner with Mr. Jesup in the firm of Cuyler, Morgan & Co., from which both gentlemen retired in 1899. Mr. Paton was for many years president of the Society for Improving the Condition of the Poor, and contributed largely to its important philanthropic enterprises.

Patterson, Mrs. Martha, daughter of President Andrew Johnson, born in Greenville, Tenn., Oct. 25, 1828; died there, July 10, 1901. She was the eldest child of President Johnson, and during his administration was mistress of the White House. She was a woman of remarkable intelligence and judgment, and in all his political struggles was his confidante and adviser.

Paul, Charles Rodman, soldier, born in Pennsylvania, Sept. 11, 1843; died in Philadelphia, Nov. 8, 1901. He enlisted as a private in the 7th New Jersey Infantry, Aug. 28, 1861, and served till Aug. 15, 1862. On Aug. 25 he was made a 2d lieutenant of the 15th New Jersey Infantry; 1st lieutenant, Aug. 10, 1863; captain, Sept. 10, 1864; and was mustered out of the volunteer service July 11, 1865. He was brevetted major of volunteers, Oct. 19, 1864, for gallantry

in the campaign in Virginia, and in the engagements at Winchester, Fishers Hill, and Cedar Creek; and lieutenant-colonel of volunteers, April 2, 1865, and captain, March 2, 1867, for gallant and meritorious services before Petersburg. He was commissioned a 2d lieutenant in the 16th Regular Infantry and 1st lieutenant, both on Feb. 23, 1866; transferred to the 25th Infantry, Sept. 21, 1866; to the 18th Infantry, April 26, 1869; commissioned captain, March 20, 1879; major, April 26, 1898; lieutenant-colonel, 20th Infantry, Jan. 29, 1900; and colonel, 30th Infantry, Sept. 27, 1901. He served in Montana, Indian Territory, Kansas, and Colorado, and was in Texas in 1898, when the Spanish War began, when he was ordered to the Philippines and served there till January, 1901.

Paul, John, jurist, born in Rockingham County, Virginia, in 1839; died in Harrisonburg, Va., Nov. 1, 1901. He was educated at Roanoke College, and during the civil war was a lieutenant in the 1st Virginia Cavalry. He was graduated in law at the University of Virginia in 1867, and soon became a notable figure in the politics of his State. He was attorney for the Commonwealth from 1870 to 1877, and in the latter year was elected to the State Senate by the readjuster party. He was member of Congress from 1881 to 1883. In March, 1883, he was appointed United States judge for the Western District of Virginia, and he took his seat in the autumn of that year and served till his death.

Paul, William M., actor, born in England in 1840; died at Canobie Lake, N. H., Jan. 31, 1901. He first appeared in the United States in 1861 in a pantomime under the management of John Ellsler, in Cleveland, Ohio. Later he supported Edwin Booth, Lawrence Barrett, Charles Fechter, Joseph Jefferson, and other stars. His last engagement was with the Castle Square Stock Company, Boston, in 1900. He served in the United States navy during the civil war.

Peabody, Charles Augustus, jurist, born in Sandwich, N. H., July 10, 1814; died in New York city, July 3, 1901. He was graduated at the Harvard Law School in 1837, and began to practise in New York city in 1839. He was a member of the convention that organized the Republican party in New York, in 1855, and was a justice of the New York (State) Supreme Court from 1855 to 1857. In 1858 he was State Commissioner of Quarantine. In 1862 he was appointed judge of the United States Provisional Court of Louisiana. He served as chief justice of the Supreme Court of Louisiana from 1863 to 1865. After retiring from the bench he practised law in New York city until his death. He was for many years vice-president of the Association for the Reform and Codification of the Law of Nations, and was the delegate of the United States to the International Congress of Commercial Law in 1885.

Peakes, James G., singer, born in Boston, Mass., in 1846; died in New York city, Nov. 6, 1901. He was educated in the Boston public schools, and made his first appearance at the Boston Museum as a boy soprano. After studying music and singing publicly in Boston for several years he became a leading tenor of the Holman Opera Company. He next sang with the Caroline Richings Company, and for many seasons sang in support of Clara Louise Kellogg under the management of Max Strakosch. When Miss Kellogg retired from the stage he joined Emma Abbott, and was a member of her company till her death. He then became associated with T. Henry French and staged the first production of *Little Lord Fauntleroy*. Later under the same management

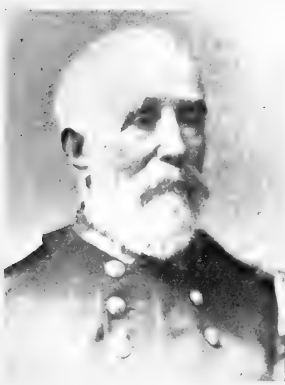
he sang for several seasons in support of Lillian Russell; and afterward under George W. Lederer he sang in many of the comic-opera productions at the Casino in New York.

Perkins, Maurice B., chemist, born in New London, Conn., March 14, 1836; died in Schenectady, N. Y., June 18, 1901. He studied chemistry in 1861-'62 at the Universities of Göttingen, Heidelberg, and Tübingen, in Germany, and in 1862 was appointed Assistant Professor of Chemistry in the College of Physicians and Surgeons, New York city, where he served one year. From 1863 to 1865 he held a similar place in the Lawrence Scientific School of Harvard University. In 1865 he was made Professor of Analytical Chemistry in Union College, and he held that chair till his death. He received the degree of A. M. from Harvard in 1865, and of M. D. from Albany Medical College in 1870. In 1886 he was appointed a member of the State Board of Health of New York, and in later years his time was largely occupied with professional investigations for private concerns and as an expert witness in law trials. He published a *Manual of Qualitative Analysis*.

Pfueger, Carl, opera-singer and composer, born in Passel, Germany, in 1850; died in Cambridge, Mass., May 21, 1901. He sang soprano at the gymnasium of his native town before he was ten years old, and began to study for the operatic stage when he was eighteen years old. He was in active service in the German army during the Franco-Prussian War. His first visit to the United States was with the German Opera Company, in which he sang in New York the leading tenor rôles with Pauline Lucca and other artists. He was the first man to impersonate Lohengrin in America. In 1877 he established himself in Boston as a singer, vocal music teacher, and composer. In 1883 he assumed the directorship of the Orpheus Musical Society of that city. In 1899 he took charge of the Cadet Minstrels in Music Hall, and in 1890 wrote, in collaboration with R. A. Barnet, *Injured Innocence*, the first dramatic production given by the Cadets. In 1892, with Mr. Barnet, he wrote the music for the play of 1492.

Phelps, Thomas Stowell, naval officer, born in Buckfield, Me., Nov. 2, 1822; died in New York city, Jan. 10, 1901. He was a lineal descendant of George Phelps, of Tewksbury, England (a scion of the ancient family of Phyllyppes), who with his brother William became a colonist in 1630 and assisted in founding Dorchester and Westfield, Mass., and Windsor, Conn. The subject of this sketch was appointed a midshipman in the United States navy Jan. 17, 1840, and after six years of sea service was graduated at the Naval Academy in 1846. He served in the Mexican War, and was wrecked in the United States ship *Boston* on Eleuthera island. Afterward he was engaged in the Coast Survey, was on the Mediterranean and Pacific stations, and served throughout the Indian war in Washington Territory in 1855-'56. He participated in the battle of Seattle, where for more than six hours his division was subjected to a furious fire from a vastly superior force of Indians. He was promoted to lieutenant in 1855, was executive officer of the steamer *Westernport* in the Paraguay expedition, and at the beginning of the civil war was attached to an expedition for the relief of Fort Sumter. In June, 1861, he executed a survey and drew a chart of the Potomac river, for the defense of Washington, running the Aquia creek batteries, and was selected to cooperate with the advance movements of the army and navy. In September, 1861, he was transferred to the ship

Corwin for secret service in Virginia and North Carolina waters. He surveyed and buoyed Hatteras inlet for the admission of expeditions into Pamlico and Albemarle Sounds, frequently opposed by a Confederate squadron of gunboats, and on Nov. 14 he engaged and beat off the Confederate gunboat



Curlew, of superior force. In March, 1862, he was assigned to the command of a squadron for the purpose of placing an army corps in the rear of the enemy, was in 3 engagements with the Yorktown and Gloucester Point batteries, and on the evacuation of these places advanced up York river to West Point, capturing 5

Confederate vessels and causing the destruction of 2 others, and thwarted the destruction of the White House bridge. At the battle of West Point he prevented the junction of a large Confederate force with the main army. He made charts of the Mattaponi and Pamunkey rivers, and after the repulse of McClellan was, in compliance with an act of Congress, detailed to survey the Potomac river thoroughly, which was successfully accomplished, although he was opposed by a strong force of the enemy. He became a lieutenant-commander in June, 1862, and during portions of the years 1863-'64 was employed in examining dangers in the way of blockading vessels. He commanded the Juniata at the capture of Fort Fisher, and was afterward transferred to the Lenapee, and was senior officer in the Cape Fear river and adjacent waters to the close of the war. He then served on the Southern coast till 1867, when he was transferred to duty at the California Navy-Yard, having been commissioned a commander in August, 1865. He was promoted to captain in 1871, commanded the Saranac in 1871-'73, and next served as captain of the yard at Mare Island until April, 1877. He commanded the Independence in 1877-'78, and was commissioned commodore in January, 1879. He was commandant of Mare Island Navy-Yard in 1881-'82, and commander-in-chief of the South Atlantic station in 1883-'84. He was promoted to rear-admiral in March, 1884, and after forty-five years of active service was retired in November of the same year. He published *Sailing Directions for the Straits of Magellan* (Washington, 1855); *Reminiscences of Washington Territory* (New York, 1882); and magazine articles.

Pike, Marshall S., song-writer, born in Westboro, Mass., May 20, 1818; died in Upton, Mass., Feb. 13, 1901. He began to write verses and music when he was fourteen years old. In 1843, with John and James Power and L. V. H. Crosby, he formed a quartet called the Albino family. With this and the Harmonicon family he and his songs gained a wide reputation. At the beginning of the civil war he organized a band and went to the front as drum-major with the 22d Massachusetts Regiment. He was taken prisoner at the battle of Gaines Mill, and sent to Libby Prison. While there he organized a glee-club to alleviate the sufferings and shorten the weary hours of the captives. After his release he sang

in New England as a member and part owner of the Pike and Glunn Combination. The best known of his many songs, which were widely popular in the days following the war, are *The Indian Warrior's Grave*; *Lone Starry Hours*; *Washington's Grave*; *Twinkling Stars are Laughing, Love*; and *Home Again*.

Pillsbury, John Sargent, ex-Governor of Minnesota, born in Sutton, N. H., July 29, 1828; died in Minneapolis, Minn., Oct. 18, 1901. After receiving a common-school education he learned the trade of a painter, clerked for a time in his brother's store, later was a merchant tailor in Concord, N. H., and finally settled in St. Anthony (now a part of Minneapolis), in the hardware business in 1855. In 1857 he was burned out, but he continued the business until some years afterward, when he engaged in flour-milling with his nephew, Charles A. Pillsbury. In 1872 he became a partner in the famous firm of Charles A. Pillsbury & Co. When the civil war broke out he organized the 1st, 2d, and 3d Regiments of Minnesota Volunteers. In 1862 he, with others, raised and equipped a mounted company to aid in suppressing an Indian outbreak in Minnesota. In 1863 he became one of the regents of the University of Minnesota, and to him was due the fact that it emerged from early poverty into an era of prosperity. In 1863 he was elected to the State Senate, where he served almost continuously until 1876. He was elected Governor in 1875, and was twice reelected, serving till 1882. During his term he prevented the repudiation of the Minnesota State Railway bonds, and did much to assist the farmers that had been impoverished by the grasshopper plague. In 1889 he built and gave to the university Science Hall, at a cost of \$150,000. He presented a handsome town hall to Sutton, N. H., and built in Warner, N. H., the Pillsbury Free Library, and in Concord, N. H., the Margaret Pillsbury Hospital. In 1900 he gave to East Minneapolis a branch public library, and joined his wife in the support of the Home for Working Girls, in Minneapolis, to the permanent fund of which he gave \$100,000.

Pingree, Hazen S., ex-Governor of Michigan, born in Denmark, Me., Aug. 30, 1840; died in London, England, June 18, 1901. At the age of fourteen he was working in a cotton factory in Saco, Me.; in 1860 he was employed in a shoe factory in Hopkinton, Mass. In 1862 he enlisted as a private in the 1st Massachusetts Heavy Artillery, and he served through the war. He participated in the second battle of Bull Run, and the battles of Fredericksburg, Spottsylvania, Cold Harbor, and North Anna. In 1864 he was captured and was a prisoner five months. In August, 1865, he was mustered out and returned to Hopkinton. Soon afterward he went to Detroit, Mich., where for a time he was employed in a boot and shoe factory. In December, 1866, he formed a partnership with C. H. Smith to manufacture shoes, and their business increased till the annual output represented \$1,000,000. In 1889 he was elected mayor of Detroit by the Republican party by 2,318 majority, overcoming a normal Democratic majority of 3,000. He was three times reelected—in 1891, 1893, and 1895—by increased majorities each time. As mayor he accomplished many municipal reforms. His plan to turn over the city's unoccupied lands for the cultivation of potatoes by the poor was extensively noticed. He was elected Governor of Michigan in 1896, was reelected in 1898, and retired in 1900 after a stormy time with the Legislature, but chiefly relating to reforms in the taxation of steam railroads.

Pollock, Robert, soldier, born in Philadelphia, Pa., Sept. 17, 1819; died in Cornelius, Ore., Feb. 24, 1901. He enlisted as a sergeant of Virginia volunteers, Jan. 6, 1847; became a 2d lieutenant, May 6; served through the Mexican War; and was mustered out July 31, 1848. He became major of the 3d California Infantry Sept. 4, 1861, and was made lieutenant-colonel Dec. 12, 1861; colonel, March 29, 1863; and was mustered out Nov. 14, 1864. He was then made lieutenant-colonel of the 2d California Infantry, Jan. 7, 1865, and served till June 23, 1866. He was brevetted, March 13, 1865, colonel of volunteers for faithful service during the war. He was appointed 1st lieutenant, 32d Infantry, July 28, 1866; transferred to 21st Infantry, April 19, 1869; commissioned captain, Feb. 19, 1873; and retired Sept. 17, 1883. He was brevetted major, Feb. 27, 1890, for marked bravery and gallant services against the Indians at the Clearwater, Idaho, July 11 and 12, 1877.

Ponisi, James, actor, born in England in 1819; died in New York city, Sept. 12, 1901. After considerable experience in the London theaters during his early manhood, he came to America in 1851, and made his first appearance in Buffalo, N. Y. He played throughout the United States, supporting Joseph Jefferson for a time, and during another period acting as business manager for the elder Sothern, who was then playing Lord Dundreary. Mr. Ponisi retired from the stage about 1881. His first wife was known as Mme. Ponisi, a distinguished member of Wallack's Theater Company. They were divorced, and he afterward married an American who was not connected with the theatrical profession.

Porter, Fitz John, soldier, born in Portsmouth, N. H., June 13, 1822; died in Morristown, N. J., May 21, 1901. He was graduated at West Point in 1845, and assigned to the 4th Artillery as brevet 2d lieutenant; he was promoted 2d lieutenant, June 18, 1846; 1st lieutenant, May 29, 1847; colonel, 15th Infantry, May 14, 1861; cashiered, Jan. 21, 1863; restored to duty as colonel of infantry, Aug. 5, 1886, to rank from May 14, 1861; and retired Aug. 7, 1886. In the volunteer service he was appointed brigadier-general, May 7, 1861; major-general, July 4, 1862. In the Mexican War he was brevetted captain, Sept.



8, 1847, for services at Molino del Rey, and major, Sept. 13, 1847, for Chapultepec. He was on garrison duty till July 9, 1849, when he was appointed assistant instructor of artillery at West Point; he served there successively as assistant instructor in natural and experimental philosophy, adjutant of the Military Academy, and instructor of artillery and cavalry till 1855. In 1857-'60 he served under Gen. Johnston in the Utah expedition. In 1860 he became assistant inspector-general, with headquarters in New York city. In April, 1861, he was on duty in the adjutant-general's office in Washington; he superintended the protection of the railroad between Baltimore and Harrisburg during the Baltimore riots. As brigadier-general of volunteers he was assigned for a time to duty in Washington. In 1862 he participated in the Peninsular campaign, and after the evacuation of Yorktown, May 4, was Governor of that place for a brief period. He

commanded the 5th Army Corps at the battles of Mechanicsville, June 26; Gaines Mill, June 27; and Malvern Hill, July 1, 1862. He was brevetted brigadier-general in the regular army for gallant conduct at Chickahominy. As major-general of volunteers he was temporarily attached to Gen. Pope's Army of Virginia. On the first day of the second battle of Bull Run his corps, though ordered to advance, was unable to do so, but the next day was actively engaged. Charges of inaction were brought against him, and he was deprived of his command. At the request of Gen. McClellan he was restored, and took part in the Maryland campaign. Nov. 27, 1862, he was arraigned before a court-martial in Washington, and after a two months' trial was cashiered, Jan. 21, 1863. The justice of the verdict was the subject of much controversy. He made numerous appeals for its reversal, and on May 4, 1882, the President remitted so much of the sentence as disqualified him from holding office under the Government. Subsequently a bill for his relief was passed by Congress and he was restored to the United States army as colonel, Aug. 5, 1886, and retired two days later. In 1864-'65 he superintended mining operations in Colorado. Later for several years he was in business in New York city. From 1872 till 1875 he was superintendent of the New Jersey State Insane Asylum; from 1875 till 1877 he was commissioner of public works in New York city; from 1877 till 1882 he was assistant receiver of the Central Railroad of New Jersey. He was police commissioner of New York city from 1884 till 1888, and fire commissioner for a year. He was cashier of the New York post-office in 1893-'97.

Porter, Samuel, educator, born in Farmington, Conn., Jan. 12, 1810; died there, Sept. 2, 1901. He was a son of Dr. Noah Porter, and was graduated at Yale in 1829. In 1832-'36 and in 1846-'66 he was instructor of the deaf and dumb in the Hartford institution. He taught in the New York institution from 1843 to 1846, and from 1854 to 1860 he was editor of the American Annals of the Deaf and Dumb. In 1866 he became Professor of Mental Science and English Philology in Gallaudet College, and in 1884 he was retired as professor emeritus. He was the author of the Guide to Pronunciation prefixed to Webster's International Dictionary, of papers read before the American Philological Association, and of articles in magazines.

Porter, Thomas Conrad, educator, born in Alexandria, Pa., Jan. 22, 1822; died in Easton, Pa., April 27, 1901. He was graduated at Lafayette College in 1840, and at Princeton Theological Seminary in 1843, and was a missionary in Georgia till Nov. 14, 1848, when he was made pastor of the Second German Reformed Church, Reading, Pa. The following year he became Professor of the Natural Sciences in Marshall College; and when that college united with Franklin College he held the same chair till 1866, when he became Professor of Botany, Zoology, and General Geology in Lafayette College. On Jan. 1, 1897, he was made professor emeritus, curator of the botanical collections, and dean of Pardee Scientific School. He served as pastor of the Third Street Reformed Church, Easton, Pa., from 1877 to 1888. Rutgers conferred upon him the degree of D. D. in 1865, and Franklin and Marshall that of LL. D. in 1880. He worked over the Hayden botanical collections made in the Rocky mountains in 1870 to 1874, and his collection of the flora of Pennsylvania is the largest and most complete in existence. His name was given to a genus of plants (*Porteranthus*) belonging to the rose family, of which there

are about eighty species. He was a prolific writer on a wide range of subjects. He was the earliest champion of Finnish literature, and in 1854 drew attention to the similarity in form and spirit between Longfellow's poem *Hiawatha* and the Finnish national epic *Kalevala*. He published the *Synopsis of the Flora of Colorado* and a *Botany of Pennsylvania*.

Potter, Eliphalet Nott, educator, born in Schenectady, N. Y., Sept. 20, 1836; died in the city of Mexico, Feb. 6, 1901. He was the youngest son of Alonzo Potter, Protestant Episcopal Bishop of Pennsylvania, and was graduated at Union College in 1861, and at Berkeley Divinity School in 1862. He was rector of the Protestant Episcopal Church of the Nativity, in South Bethlehem, Pa., from 1862 till 1869. From 1866 till 1871 he was secretary and Professor of Ethics in Lehigh University, and from 1869 till 1871 he was associate rector of St. Paul's Protestant Episcopal Church, Troy, N. Y. In 1871 he was elected president of Union College, and he was chosen for the office of chancellor when through his efforts the college became a university in 1873. He resigned the chancellorship in 1884, and accepted the presidency of Hobart College, which office he administered till 1897. Later he became president of the Cosmopolitan University, designed to give university instruction by means of correspondence courses.

Powell, William H., soldier, born in Washington, D. C., Sept. 28, 1838; died in Sacketts Harbor, N. Y., Nov. 16, 1901. At the outbreak of the civil war he was a private in Washington, D. C., Light Infantry, and with his company volunteered for the protection of the capital. The company was mustered into the National service April 17, 1861, and mustered out July 17, 1861. He was then appointed 2d lieutenant in the 4th Infantry, Oct. 24, 1861. He was acting adjutant from Feb. 14 to 28, 1862, and acting assistant adjutant-general of the 1st brigade of Regular Infantry, 2d division, 5th Army Corps, participating in the Peninsula, the Maryland, and the Fredericksburg campaigns. Sept. 16, 1862, he was appointed 1st lieutenant. He was brevetted captain Sept. 17, 1862, for gallant and meritorious services in the battle of Antietam. May 4, 1864, he rejoined the Army of the Potomac, participating in the Wilderness campaign and the Petersburg campaign. He was chief of ordnance and artillery, New York city and harbor, Aug. 1 to Oct. 24, 1865, and participated in the suppression of the Fenian raid into Canada in 1866. Aug. 5, 1888, he was appointed major of the 22d Infantry, and May 4, 1892, was appointed lieutenant-colonel and assigned to the 11th Infantry. He was appointed colonel of the 9th Infantry June 27, 1897, accompanied the regiment to Tampa in April, 1898, and was made acting brigadier-general and assigned to the 1st division of the 5th Army Corps. He joined his regiment in Santiago de Cuba, July 20, returned with it to Montauk, Aug. 13, and finally to Madison Barracks, Sept. 11. He was retired at his own request, April 25, 1899. Col. Powell was the author of the following books: *History of the Fourth Infantry* (1881); *Tactical Queries for Infantry* (1884); *Records of Living Officers, U. S. Army* (1890); *Officers [Regular] who served in the Civil War* (1892); *Army Officers' Examiner* (1894); *History of the Fifth Army Corps* (1895). He was known as the army historian.

Prentiss, Benjamin Maybury, soldier, born in Belleville, Va. (now W. Va.), Nov. 23, 1819; died in Bethany, Mo., Feb. 8, 1901. He removed with his parents to Missouri in 1835, and in 1841

settled in Quincy, Ill., where he learned rope-making and subsequently engaged in the commission business. In 1844 he was 1st lieutenant of a company to be sent against the Mormons at Hancock, Ill. As a captain of volunteers he served with distinction through the Mexican War, and was honorably mentioned for his services at Buena Vista. At the beginning of the civil war he reorganized his old company, and offered its services to the Government. He was appointed colonel of the 7th Illinois Regiment, and May 17, 1861, became brigadier-general of volunteers. He was placed in command at Cairo, Ill., and afterward served in southern Missouri, where he routed a large body of Confederates at Mount Zion, Dec. 28, 1861. He joined Gen. Grant at Pittsburg Landing three days before the battle of Shiloh, in which he commanded the 6th division, consisting of two regular army brigades and several regiments of volunteers. On the first day of the battle, April 6, 1862, Gen. Prentiss was assigned to a position, and having no orders to retreat, stubbornly held his ground until late in the afternoon, when he was surrounded and captured with almost his entire command. He was a prisoner until October, 1862. On Nov. 29 he was made major-general of volunteers. He served on the court-martial that was convened to try the case of Gen. Fitz John Porter, in November, 1862. He commanded the post at Helena, Ark., in 1863, where, on July 3d, he was attacked by the Confederates under Gens. Holmes and Price, whom he signally defeated. Gen. Prentiss resigned his commission Oct. 28, 1863, and in later life practised law in Bethany, Mo.

Ramsey, John, soldier, born in New York city, Oct. 7, 1838; died in Jersey City, N. J., Feb. 11, 1901. At the outbreak of the civil war he enlisted in the 2d New Jersey Infantry, and on the expiration of his three months' term of service reenlisted in the 5th New Jersey and was commissioned captain. He was made a major in May, 1862, for bravery in the field, and in October of the same year was appointed lieutenant-colonel. In October, 1863, he was made colonel of the 8th New Jersey Volunteers. In December, 1864, he was brevetted brigadier-general for conspicuous bravery, and on March 13, 1865, was brevetted major-general. He took part in the battles of Bull Run, Yorktown, Chantilly, Fredericksburg, Chancellorsville, Gettysburg, the Wilderness, Spottsylvania, Cold Harbor, Petersburg, and Hatcher's Run, and was wounded 17 times. At Fredericksburg he attracted the attention of Gen. Miles and was recommended by him for promotion. He was also recommended for promotion by Gen. Meade. He was for a time collector of the port of Jersey City.

Ranck, George W., author, born in Louisville, Ky., Feb. 13, 1841; died in Lexington, Ky., Aug. 2, 1901. He studied at the University of Kentucky, and was the historian of his State. His statements as to the location of the original log fort erected near Lexington in pioneer days as a protection against the Indians had been attacked by other historians, and while walking the track near the site, collecting data in support of his argument, he was struck by a railroad train and killed. He was the author of *History of Lexington, Ky.* (1872); *Girty, the White Indian*; *The Traveling Church* (1891); *The Story of Bryan's Station* (1896); *The Bivouac of the Dead and its Author* (1898); and *Boonesborough* (1901).

Ransom, Chauncey Monroe, insurance underwriter, born in Erie County, New York, April 18, 1831; died in Boston, Mass., Dec. 9, 1901. He went to Cincinnati, where from 1858 to 1867 he

solicited fire insurance. In 1868 he was elected vice-president of a life insurance company and the representative of a St. Louis company. In September, 1871, he purchased an interest in the Baltimore Underwriter, and in 1878 the Boston Index, which he changed to the Standard, of which he was editor till his death. In 1883 he organized the Boston Life Underwriters' Association, out of whose influence grew the National Association of Life Underwriters, organized in Boston in June, 1890.

Rathbone, John Finley, manufacturer, born in Albany, N. Y., Oct. 12, 1819; died there, March 20, 1901. He was educated at the Albany Academy and the Collegiate Institute, Brockport, N. Y. In 1845 he established in Albany a stove foundry that, under the name of Rathbone, Sard & Co., has become the largest in the world. He was brigadier-general of the 9th Brigade, New York National Guard, from 1861 to 1867, and when, at the beginning of the civil war, Albany was made a depot for volunteers, Gen. Rathbone was appointed commandant. He equipped and sent into the field 34 regiments, and was commended by the War Department for his services. He was appointed adjutant-general of the State troops, with the rank of major-general, by Gov. Dix, Jan. 1, 1873, and served with distinction in that capacity during the latter's administration. Throughout his life he was active in religious, educational, and charitable work. He was one of the founders of the Albany Orphan Asylum; was for fifty years superintendent of the Emanuel Baptist Sunday-school; was a director of many educational and charitable institutions; and gave to the University of Rochester \$40,000 as a foundation for a library.

Read, Josiah M., inventor, born in Sandwich, N. H., April 1, 1809; died in Everett, Mass., Nov. 6, 1901. He was educated in the schools of his native town, and at the age of nineteen removed to Rockland, Mass., where he learned the trade of wheelwright. In 1839 he began, in Boston, inventing, manufacturing, and dealing in patent stoves and appliances. He is said to have invented the first cooking-range in 1846. He continued in active business till 1888. He served in the State Legislature from 1861 to 1863.

Bearick, Peter Anton, naval officer, born in Maryland, Nov. 12, 1838; died in Washington, D. C., Feb. 9, 1901. He was appointed to the navy as a third assistant engineer Feb. 17, 1860, and served through the civil war, receiving the appointments of second assistant engineer, July 22, 1862, and first assistant engineer, March 1, 1864. He was made passed assistant engineer Feb. 24, 1874, and chief engineer, March 25, 1874. After the war he was on duty with the Pacific Squadron, and on the North and South Atlantic, European, and Asiatic stations, besides serving at various navy-yards and as a member of the Steel Inspection Board. He was retired as a rear-admiral Feb. 7, 1900.

Reed, Roland Lewis, actor, born in Philadelphia, Pa., June 18, 1852; died in New York city, March 30, 1901. His father was connected with the Walnut Street Theater, Philadelphia, and Roland Reed made his first theatrical appearance there as an infant in arms, afterward playing juvenile characters as soon as he was old enough to speak the lines. When the youth grew older he became stage-doorkeeper of the Walnut Street Theater, occupying that place for several seasons. He then went to Mrs. John Drew's Arch Street Theater as an usher, but soon became the prompter. His real training as an actor began at this time. The company was very fine, and during an

engagement of Lotta, the comedienne, in *The Fire-fly*, the leading man was taken ill and his rôle was assigned to Reed. The young actor was so successful in this performance that he was engaged immediately as a regular member of the dramatic company. Soon after this he returned to the Walnut Street Theater, playing low-comedy rôles. In the season of 1870-'71 Mr. Reed became leading man at this theater, and during seven succeeding seasons he held a similar place in the stock companies at the Academy of Music, New Orleans; the Olympic Theater, St. Louis; the Academy of Music, Cleveland; and McVickar's Theater, Chicago. After playing for a season in the Colville Folly Company, he secured the rights to Augustin Daly's *An Arabian Night*, and began his first starring tour in 1880. In 1881-'82 he played *Jewell* in the English melodrama, *The World*. In the autumn of 1882 he appeared in Chicago in the play of *Cheek*, scoring a great success. He continued with this play, and with a similar production entitled *Humbug*, until 1885, when for a short time he abandoned his starring tour to create the character of *Koko* in the American production of Gilbert and Sullivan's opera, *The Mikado*. In 1887 he again appeared successfully as a star in *The Woman-Hater*, following this with productions of *Lend Me your Wife*, *The Bridal Trap*, *The Club Friend*, *Innocent as a Lamb*, *The Politician*, *A Man of Ideas*, and *The Wrong Mr. Wright*, in nearly all of which he won distinction as an actor besides greatly increasing his fortune. In 1898-'99 he played in *His Father's Boy*, continuing with this piece throughout the season. In December, 1899, he was obliged to end his tour suddenly on account of illness, and he did not appear again until early in the autumn of 1900, when he opened at the Boston Museum in *A Modern Crusoe*. He took this play to Chicago, but in October, 1900, failing health again obliged him to close his season abruptly, and this was his last public appearance. Mr. Reed was a brilliant and versatile actor, a man of high character, and a great favorite with the public and among his friends. He married, in 1877, Miss Johanna Summers, of Philadelphia.

Reid, James Douglas, telegrapher, born in Edinburgh, Scotland, March 22, 1819; died in New York city, April 28, 1901. In 1834 he removed with his family to Toronto, Canada, where he took a place as junior clerk in a bank. He removed to Rochester, N. Y., in 1837, and became a clerk in the post-office under Henry O'Reilly. In Rochester he became acquainted with S. F. B. Morse, and studied with him. In 1845 O'Reilly secured a contract for constructing a telegraph-line from Philadelphia to Pittsburg, from Amos Kendall, then Prof. Morse's agent and attorney. Mr. Reid was made an assistant to Mr. O'Reilly in the construction of the line, and was assigned to the building of the first section, from Lancaster to Harrisburg. His next appointment of importance was as superintendent of the Magnetic Telegraph Company, a line from New York to Washington, and also as superintendent of the Atlantic and Ohio Telegraph Company, with a line from Philadelphia to Pittsburg. In 1856, when the Western Union Company began to absorb lines, Mr. Reid was made superintendent of the New York, Albany and Buffalo Telegraph Company, which was soon afterward absorbed by the Western Union. Several other companies with which he was connected were taken in subsequently. In the early fifties he founded and edited the *National Telegraph Review*, and in 1877 he published the first edition of the *Telegraph in America*. He also contributed many

articles to magazines. At the convention of telegraphers in Pittsburg in 1886 he received a gold medal in consideration of his services, and he received in 1899 a similar honor from the New York Telegraph Club. Mr. Reid was United States consul at Dunfermline, Scotland, from 1889 to 1897.

Revels, Hiram R., Senator, born in Fayetteville, N. C., Sept. 1, 1822; died in Aberdeen, Miss., Jan. 16, 1901. He was a quadroon, the son of free colored parents, and was educated in the Friends' Seminary, in Liberty, Ind. He was ordained a minister in the African Methodist Episcopal Church, lectured throughout the North, and became a leader among the negroes of Ohio, Illinois, Indiana, and Mississippi. During the civil war he assisted in organizing colored regiments in Maryland and in St. Louis, Mo., and followed the Federal army to Jackson, Miss., preaching to the emancipated slaves. In the years following the war he was one of the most influential of his race. He was elected to the State Senate in Mississippi in 1869, and in February, 1870, was sent to the United States Senate from that State and served till March 4, 1871. For many years he was president of Alcorn Agricultural University for Negroes, at Rodney, Miss., and at the time of his death he was presiding elder of the Holly Springs District Conference of his Church.

Riggs, Elias, missionary and linguist, born in New Providence, N. J., Nov. 19, 1810; died in Scutari, Turkey, Jan. 17, 1901. He was graduated at Amherst College in 1829, and at Andover Theological Seminary in 1832. He was a missionary of the American Board in Athens and Argos from 1832 to 1838; in Smyrna, from 1838 to 1853; and in Constantinople, from 1853 till his death. He returned to the United States only once—in 1856—and being delayed by the publication of his Armenian Bible, taught Hebrew in Union Theological Seminary in 1857 and 1858. His translations of the Bible into Armenian and Bulgarian are the standard editions. He assisted largely in the revision of the Turkish Bible in Arabic and Armenian characters in 1873 to 1878 and in 1883 to 1886. Dr. Riggs was the author of *A Manual of the Chaldee Language*; *Chrestomathy*, and a *Vocabulary* (1832); *The Young Forester: A Memoir of the Swedish Missionary Fjellstedt*; *Grammatical Notes on the Bulgarian Language* (1844); *Grammar of the Modern Armenian Language* (1847); *Grammar of the Turkish Language as Written in the Armenian Character* (1856); *Translation of the Scriptures into the Modern Armenian Language* (completed with the aid of native scholars in 1853); *Translation of the Scriptures into the Bulgarian Language* (completed with the aid of native scholars in 1871); *Notes on Difficult Passages of the New Testament*; *A Harmony of the Gospels, in Bulgarian*; a *Bible Dictionary, in Bulgarian*; and many tracts and hymns in Greek, Armenian, and Bulgarian.

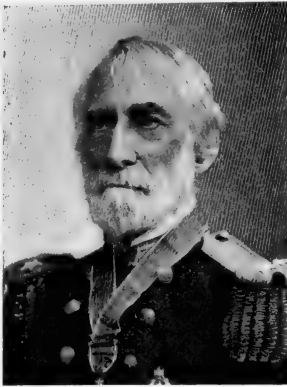
Roberts, James Booth, actor, born in Newcastle, Del., Sept. 27, 1818; died in Elizabeth, N. J., Sept. 14, 1901. He made his first appearance at the Walnut Street Theater, Philadelphia, as Richmond in *Richard III*, Junius Brutus Booth playing *Richard*. After this engagement he devoted himself for two years to the study of dramatic art, and then appeared again at the same theater in an unimportant rôle, supporting Edwin Forrest. For the next eight years he played minor rôles in various stock companies, but during this period he was gradually making a prominent place for himself in the profession. On Feb. 12, 1847, he made his first appearance in New York, at the old Chatham Street Theater,

as *Richard III*, and during one week he played the leading rôles in a repertoire that included *The Iron Chest*, *The Stranger*, *Othello*, *Hamlet*, and *Macbeth*. This engagement was so successful that he appeared again in New York, playing the characters of *Romeo*, *Shylock*, *Jaffier*, *St. Pierre*, and *Rolla*. Soon after this he made a tour of the United States, appearing in classic rôles. In 1856 he went to England, making his first appearance at Drury Lane Theater, London, Sept. 21, as *Sir Giles Overreach* in *A New Way to Pay Old Debts*, after which he played in Liverpool, Manchester, Dublin, Limerick, and Belfast, covering a period of eighteen months. He then returned to America and wrote an English adaptation of *Goethe's Faust*, which he produced in Philadelphia, playing the character of *Mephistopheles*. Some time after this he appeared as *Hertzog* in the famous spectacular production known as *The Black Crook*, in which rôle he made a great success. He traveled for many seasons throughout the United States, playing *Mephistopheles* in his adaptation of *Faust* until 1876, when he practically retired from the stage, devoting himself thereafter to teaching elocution and dramatic art. Mr. Roberts was one of the first native-born American actors, and was one of the founders of the Shakespeare Birthday Club of New York. He was never married.

Roberts, Lewis A., publisher, born near Ballington, England, Dec. 6, 1833; died in Lakewood, N. J., Jan. 23, 1901. He removed to the United States about 1840 with his father, who settled on a large country place near New Bedford, Mass. In 1849 young Roberts went to Boston, where he first engaged in trade, and in 1859 established the firm of Roberts Brothers, bookbinders, photograph-album makers, and book-publishers, which within five years became one of the largest in the country. The brother, who was the first partner, retired within two years after the founding of the firm, and Lewis Roberts was its sole owner till 1872, when he admitted his brother-in-law, Thomas Niles, as a partner. Mr. Niles died in 1894, and Mr. Roberts continued at the head of the business till compelled by failing health to resign in 1899. Mr. Roberts studied landscape painting under Oudinot, and was a man of broad literary culture. The publications of his house were of the highest order, and the larger part of his ventures were eminently successful. One of his greatest successes was the series of children's books by Louisa M. Alcott. Other authors that he did much toward introducing to the American public are Edward Everett Hale, Helen Hunt Jackson (H. H.), Olive Schreiner, Robert Louis Stevenson, Mrs. Ewing, William Morris, George Meredith, Dante G. Rossetti, Christina G. Rossetti, Sir Edwin Arnold, Philip G. Hamerton, and Jean Ingelow.

Roe, Francis Asbury, naval officer, born in Elmira, N. Y., Oct. 4, 1823; died in Washington, D. C., Dec. 28, 1901. His great-grandfather was Benjamin Roe, who was killed near Lake Champlain in 1756 while serving in the French and Indian War; his grandfather, John Roe, was a minuteman in the New York line, and later a quartermaster in the 1st Regiment of the Suffolk County Militia during the War of the Revolution, and his father was Isaac Roe, who was a sergeant in the New York State Militia during the War of 1812. His early years were spent in Elmira, where his father possessed a large estate. On Oct. 19, 1841, he entered the United States navy as acting midshipman, serving on the *John Adams* and the *Yorktown* at various stations until 1846, when he was ordered to the *Boston*,

bound to the Gulf of Mexico to join the squadron under Perry blockading Vera Cruz, but was shipwrecked on Eleuthera island, West Indies. Subsequently he served on the Alleghany, and on Oct. 20, 1847, was ordered to the Naval Academy,



where, in 1848, he was graduated and promoted to passed midshipman. On Sept. 26, 1848, he was ordered to the Albany, and cruised among the West India islands, and in 1849 was dismissed the service, by sentence of court-martial, for disobedience of an illegal order, but a year later was re-appointed to the service, with original rank and place on the navy

list. During 1850-'52 he was executive officer of the mail-steamer Georgia, and on Dec. 27, 1852, was ordered to the Porpoise, of the North Pacific and Bering Strait Expedition, to serve in a similar capacity. While in China he had an action with a fleet of 13 heavy-armed pirate junks in Koulan Bay. He defeated the pirate fleet, destroying 6 junks, and dispersing the remainder, in a heated action of two hours, fought under canvas under way. In August, 1854, he was transferred to the Vincennes, the flagship of the exploring expedition, serving as executive officer of that vessel, in which he cruised in the arctic regions as far north as 72° 5' and along the north and east coast of Siberia, and Japan and the Kurile Islands. He was promoted to lieutenant in September, 1855, and in November was detached from the Vincennes and ordered to the service of the Coast Survey, with which he continued until April, 1858, when he was assigned to the Macedonian, on which he cruised in the Gulf of Mexico and in the Mediterranean. Soon after the expiration of that cruise he was assigned to ordnance duty in the New York Navy-Yard, where he remained until July, 1861, when he was ordered to the Pensacola, and served as executive officer during the passage of that ship down the Potomac river through 9 miles of batteries and under constant fire. He then carried the Pensacola to New Orleans, where he joined Farragut and led the starboard column of that fleet during the battle and passage of Forts Jackson and St. Philip, and, 80 miles above, the Chalmette batteries. For his conduct on this occasion he was specially commended, and recommended for promotion. In August, 1862, he was ordered to the command of the gunboat Katahdin, and on Aug. 5 he fought the battle of Baton Rouge against John C. Breckinridge. In February, 1863, he was sent north on account of failing health, but in the meanwhile had participated in fights at Plaquemine, Bonnet Carré, College Point, and the engagement with the Confederate ram Arkansas. In August, 1863, he received command of the Sassacus, which served on the blockade off Wilmington, where he destroyed 2 blockade-runners. At Norfolk, Va., had been collected large quantities of stores, and, in order to secure possession of these, an iron ram had been constructed by the Confederates, with which they sought to destroy the Union fleet in

Albemarle Sound. On May 5 the Albemarle came down the Sound accompanied by the Bombshell and engaged the National vessel. The squadron had been pouring ineffective shot on the iron sides of the ram for some time when it occurred to Roe that by striking the ram under water by the sharp false stem of the Sassacus he might disable her. With a speed of 9 or 10 knots, the black hull of the iron ram was struck with a right-angle blow. At the moment when this occurred a shot burst the boilers of the Sassacus, setting free a dense cloud of vapor, which enveloped both the contestants. For a quarter of an hour the two boats were held in close embrace and the guns were served, firing muzzle to muzzle. Hand grenades were thrown from the fore-top of the Sassacus into the enemy's hatch, driving back the sharpshooters and creating consternation among the closely packed crew of the ram. When the two boats separated, the Albemarle retreated up the Sound. The attendant gunboat Bombshell surrendered to the Sassacus early in the engagement. A contemporary account describes the brave commander as "firmly enunciating his instructions and orders, and guiding every movement of his gallant ship with a coolness, precision, and relentless audacity that find no parallel since the days of Decatur and Bainbridge, displaying a perfect indifference to danger worthy of one of Farragut's salamanders." After some months in the hospital Roe received command of the Michigan, then serving on the Great Lakes, and quelled an insurrection of the miners of the iron region at Marquette and the copper region at Houghton. A privateer, which had been equipped by the miners, was pursued by him into English waters, and was taken possession of by British authorities at Collingwood, Canada. After further service in various capacities, in January, 1867, he received command of the Tacony, was ordered to Vera Cruz, and was active in the negotiations that led to the surrender of that town, the commander of which, refusing to surrender to the Republican forces, after Maximilian had been executed, turned the city over to Commander Roe, who established a provisional government until the city was occupied by the Republican troops under Gen. Benavidez. At this time he took the famous agitator Santa Anna a prisoner out of an American steamer, and sent him away from the scene of action. For his skilful handling of a delicate matter he was, on his return to Washington, publicly thanked and congratulated by President Johnson, in the presence of his Cabinet. Subsequently he served as fleet captain on the Asiatic station, having command of the Delaware, and was promoted captain April 1, 1872. In 1873 he was made executive officer of the Boston Navy-Yard, and a year later he received command of the Lancaster, in which he cruised on the Brazilian station. In 1875 he was ordered to New London, and subsequently he served on various boards and was governor of the Naval Station for Retired Seamen, at Philadelphia, where he remained until his retirement in October, 1885. He was commissioned rear-admiral Nov. 3, 1884. Washington then became his permanent residence, and he devoted his leisure to literary studies, contributing frequently to magazines.

Rogers, Jacob S., manufacturer, born in Paterson, N. J., about 1820; died in New York city, July 2, 1901. His father, Thomas Rogers, settled in Paterson in 1814, and was a pioneer locomotive builder. He was a partner in and succeeded to the business of Rogers, Ketcham & Co., of Paterson. Jacob S. Rogers succeeded his father upon

his death in 1856, and continued as the active head of the business till 1897. During and after the civil war the business prospered greatly, and Mr. Rogers amassed a fortune, though he eccentrically adhered to the most conservative methods. The greater part of his fortune, more than \$5,000,000, he left to the Metropolitan Museum of Art in New York city.

Rogers, John Rankin, Governor of Washington, born in Brunswick, Me., Sept. 4, 1838; died in Olympia, Wash., Dec. 26, 1901. He was educated in the common schools. From 1852 to 1856 he was in a drug-store in Boston, and in the latter year he became manager of a similar store in Jackson, Miss. In 1861 he removed to southern Illinois, where he taught school till 1866, and then engaged in farming. He returned to Maine in 1870, and for five years conducted a drug-store in his native town. In 1876 he became a farmer in Kansas. He was one of the organizers of the Farmers' Alliance in 1878, and after that time took an active interest in politics. As a green-back Republican he was elected to several minor offices. In 1887 he established, at Wichita, the Kansas Commoner, one of the most influential Populist papers in the State. He removed to Puyallup, Wash., in 1890, and went into the real-estate business. In 1894 he was elected to the Legislature. In 1896 he was elected Governor of Washington for four years, and in 1900 he was reelected. Mr. Rogers was author of "the bare-foot schoolboy" law, and he was one of the few of the Populist legislators that would not ride on a railway pass. Besides his contributions to the Populist newspapers, he was the author of 3 books, widely circulated in the West: *The Irrepressible Conflict*, *Looking Forward*, and *The Inalienable Rights of Man*.

Roper, Jesse Mimms, naval officer, born in Glasgow, Mo., Oct. 29, 1851; died at Cavité, Luzon, Philippine Islands, March 31, 1901. He was graduated at Annapolis in 1872, and received his commission as ensign, July 15, 1873; as master, Nov. 25, 1877; as lieutenant (junior grade), March 3, 1883; as lieutenant, June 5, 1884; and as lieutenant-commander, March 3, 1899. He served on the Supply and the Fortune till July, 1879, when he was ordered to the practise-ship Constellation. After 1882 he was on the Lackawanna, and at the Naval Academy, and the Naval War College from 1886 to 1889. He was ordered to the Petrel in October, 1889, and returned to the Naval Academy in September, 1891. He was assigned to the New York in July, 1894, and to torpedo instruction on the Cushing in September, 1894. A short service as a member of the Naval Examining Board was followed by his assignment to Mare Island, and thence to the training-ship Independence. He was assigned to the Monadnock in February, 1896; for a short time served as assistant inspector, 3d Lighthouse District, Tompkinsville, N. Y.; and March 23, 1898, was made executive officer of the Mayflower. He served with distinction on this vessel through the Spanish War. In October, 1899, he was made executive officer of the Dixie, and Nov. 15, 1899, was assigned to the command of the Petrel. In a brave attempt to rescue members of the crew of his ship, which was on fire, he lost his life. After one attempt, he had returned to the deck, but returned against the advice and wishes of his officers. Commander Roper was a skilled mathematician, and of his shore duty twelve years were spent in teaching at Annapolis.

Ross, Leonard Fulton, soldier, born in Fulton County, Illinois, July 18, 1823; died in Galesburg, Ill., Jan. 18, 1901. His father was the founder

of Lewistown, Ill. Gen. Ross was a veteran of the Mexican and civil wars, having served with distinction in both. He was a collector of internal revenue under President Johnson.

Rothwell, Richard Pennefather, mining engineer, born in Ingersoll, Ontario, Canada, May 1, 1836; died in New York city, April 16, 1901. He was graduated at the Rensselaer Polytechnic Institute, Troy, N. Y., in 1858; at the Imperial School of Mines, Paris, France, in 1862; and later studied at Freiburg, Saxony. He engaged in the manufacture of telegraph-cable and wire rope in London, England, in 1864-'65; then practised as a civil and mining engineer in Pennsylvania from 1866 till 1873. In the field of mining and in the treatment of ores he made many inventions and improvements. A contour map he made in 1869 of the anthracite strata of the Panther Creek valley for the Lehigh Coal and Navigation Company is still in use. Complete surveys and contour maps of the Wyoming valley and Cahaba coal-fields which Mr. Rothwell made have been adopted by the Pennsylvania and United States geological surveys. In 1873 he became editor and manager of the *Engineering and Mining Journal* in New York. For his *Mineral Industry: Its Statistics, Technology, and Trade*, an annual cyclopædia of mining, metallurgy, and industrial chemistry, he received the gold medal of the Société d'Encouragement pour l'Industrie Nationale of Paris. He also published *Universal Bimetallism* and *An International Monetary Clearing-House*, and compiled the gold and silver statistics for the United States census of 1890.

Rowland, Henry Augustus, physicist, born in Honesdale, Pa., Nov. 27, 1848; died in Baltimore, Md., April 16, 1901. He was graduated at Rensselaer Polytechnic Institute, Troy, N. Y., with the degree of C. E. in 1871, and after a year's experience in engineering in railroad work he became a teacher in Wooster College, where he was in charge of physics, zoology, and geology. In 1872 he returned to Rensselaer Polytechnic, serving in 1872-'73 as instructor, and then as Assistant Professor of Physics. His ability soon attracted the attention of his scientific colleagues, and in 1875 he was called to the chair of Physics in Johns Hopkins University. He spent a year in Europe purchasing apparatus for the laboratory, and was for some months

a student under Helmholtz in Berlin, where he demonstrated that a moving charge of statical electricity has the same magnetic effect as a current. On his return in 1876 he entered upon the duties of his chair in Baltimore, remaining there until his death. The mechanical equivalent of heat, requiring more careful thermometric and calorimetric methods than had ever been used, was the first important investigation that he took up in Baltimore. This led to a study of the measurement of electrical quantities, and he made a careful determination of the ohm, which work he subsequently extended under the auspices of the Na-



tional Government. His name is associated with the diffraction gratings prepared by him. Recognizing the necessity for more perfect appliances in this field, he constructed a dividing-engine for ruling gratings, the essential parts of which were a screw of nearly perfect uniformity of pitch and a most ingenious device for the correction of periodic errors. Greater advantages being possible with concave gratings, he extended his method to their production, and his plane and concave gratings are now in use in all the physical laboratories of the world. With these he made a study of the solar spectrum, and in order to supplement eye observations he studied photographic methods and prepared his own plates. He mapped the solar spectrum from the extreme red to the ultra-violet, and prepared enlarged maps, which he published. Following this, he began the systematic study of the arc spectra of all the elements, a work which he had not finished at the time of his death. He also devoted much attention to the theory of alternating currents, and their application for practical purposes. He devised a system of multiplex telegraphy depending upon synchronous motors, which gained for him a grand medal at the Paris Exposition in 1900. Prof. Rowland's knowledge of electricity was frequently taken advantage of, and the general treatment of the employment of the force at Niagara Falls for the generation of electricity was developed by him. When the Keely motor was submitted to a board of scientific experts by the originator, Rowland alone exposed its true nature as subsequently shown. His remarkable skill as an amateur photographer was testified to by numerous prizes awarded to him at international exhibitions. In 1881 he was made a member of the Electrical Commission in Paris, and later he was appointed a permanent member of the International Commission for establishing electrical units. He was made a chevalier of the Legion of Honor in 1881, and in 1896 was advanced to the grade of officer. The Rumford medals of the American Academy were awarded him in 1884, and the Matteucci medal in 1897, in addition to which he received medals of award at the world's fairs in Chicago and Paris for his scientific inventions. The degree of Ph.D. was conferred upon him by Johns Hopkins University in 1880, and that of LL.D. by Yale in 1895 and by Princeton in 1896. In 1883 he presided over the section of physics of the American Association for the Advancement of Science, delivering a valuable opening address entitled *A Plea for Pure Science*, and in 1881 he was elected to the National Academy of Sciences. His researches were given to the world in monographs and papers contributed to scientific journals and to the proceedings of societies, and number more than 100.

Ruggles, James M., lawyer, born in Richland County, Ohio, March 7, 1818; died in Havana, Ill., Feb. 9, 1901. He is said to have drafted the platform on which the Republican party was organized in Illinois, being one of a committee, with Abraham Lincoln and Ebenezer Peck, appointed for that purpose at the session of the Illinois Legislature in February, 1856. As the other members of the committee were otherwise engaged, the chief work devolved on Gen. Ruggles. At the outbreak of the civil war he was appointed by Gov. Yates a lieutenant in the 1st Illinois Cavalry. When mustered out in 1864 he was lieutenant-colonel of the 3d Illinois Cavalry, and for a time had commanded the regiment. At the close of the war he was brevetted brigadier-general. He was the author of the first drainage law in Illinois.

Sadtler, Benjamin, educator, born in Baltimore, Md., Dec. 25, 1823; died in Atlantic City, N. J., April 28, 1901. He received his education in the institutions at Gettysburg, Pa., and was licensed to preach by the Lutheran synod of Maryland in 1844. He served as pastor at Pinegrove, Shippensburg, Middletown, and Easton, in Pennsylvania. From 1862 to 1875 he was principal of the college for women at Lutheran, Md., and from 1876 to 1885 he was president of Muhlenberg College. He was specially noted as an English scholar and writer. He was disabled by an accident, retired from regular active service in 1885, and removed to his former home at Baltimore, but was still busily engaged in various spheres and as a writer for numerous periodicals of the Church.

Safford, Truman Henry, mathematician, born in Royalton, Vt., Jan. 6, 1836; died in Newark, N. J., June 13, 1901. At an early age he attracted attention by his powers of calculation. When six years old he could mentally extract the square and cube roots of numbers of 9 and 10 places of figures, and could multiply 4 figures by 4 figures as rapidly as it could be done on paper. In 1845 he prepared an almanac, and at the age of fourteen calculated the elliptic elements of the first comet of 1849. He abridged by one-fourth the labor of calculating the rising and setting of the moon, and after long and difficult problems had been read to him once he could give their results without effort. He was graduated at Harvard University in 1854, and was appointed to a place in the observatory there, which he held ten years. He then became director of Dearborn Observatory of the old Chicago University, serving till 1874, when he became connected with the United States Coast Survey. He directed the survey of the boundaries of New Mexico and Utah. In 1876 he was appointed Professor of Astronomy in Williams College, which chair he held at his death. He published a *Continual Star Catalogue* for Williams College and two north-polar star catalogues for Harvard Observatory.

Salisbury, Edward Elbridge, philologist, born in Boston, Mass., April 6, 1814; died in New Haven, Conn., Feb. 5, 1901. He was graduated at Yale College in 1832, and studied theology there. From 1836 to 1839 he studied Oriental languages in Paris and Berlin. In 1841 he was made Professor of Arabic and Sanskrit in Yale, holding the chair of Sanskrit till 1854 and that of Arabic till 1856. About this time he was elected corresponding secretary of the American Oriental Society, and he conducted its journal for several years. He became president of the society in 1863. He received the degree of LL.D. from Yale in 1869, and from Harvard in 1886. He was the author of several volumes of Genealogical and Biographical Monographs.

Samford, William James, Governor of Alabama, born near Gainesville, Ga., Sept. 16, 1844; died in Tuscaloosa, Ala., June 12, 1901. His boyhood was spent on a farm and in a printing-office. In 1861 he enlisted in the Confederate army, and was promoted to lieutenant. After the war he read law, paying especial attention to constitutional law. He was a presidential elector in 1872, and again in 1876. In 1875 he was a member of the Alabama Constitutional Convention. In 1878 he was elected to Congress. Later he served two terms in the Senate of Alabama, and during the second term he was president of that body. In 1900 he was elected Governor of Alabama, receiving 115,187 votes, against 28,288 for his Republican opponent.

Sampson, Thomas, detective, born in Appleby, England, in 1827; died in Mount Vernon, N. Y., April 19, 1901. With his parents he came to the United States in 1830. In 1851 he became a patrolman on the New York police force and was assigned to the Eighteenth Precinct, where he caught a number of noted murderers and attracted attention by his numerous rescues from drowning and from burning buildings. In 1860 he resigned from the police force and was employed by the New York Bankers' Association to take care of the interests of the men doing business in Wall Street. While holding this place he captured Edward Gray, a clever forger, and on three occasions went to Australia to bring back men who had stolen from bankers. Later he went into the service of the United States Government. He was one of the detectives assigned to the care of President-elect Lincoln during his inauguration. After the assassination of President Lincoln he was detailed to run down the conspirators. In the eighties he was a familiar figure in Wall Street, where he was detailed by the Government to duty at the Subtreasury; of late years his duty consisted in watching for thieves there. He had received at various times 16 medals from the Government and societies.

Schott, Charles Anthony, scientist, born in Mannheim, Germany, Aug. 7, 1826; died in Washington, D. C., July 31, 1901. He was graduated at the Polytechnic School in Karlsruhe in 1847,

with the degree of C. E. A year later he came to the United States and entered the service of the Coast Survey, in which he continued until his death, serving at first in the computing division, then as hydrographic draftsman, after which, in July, 1850, he returned to the computing division, becoming computer in 1852, receiving charge of the division in 1855, and was

made assistant in 1856 (the highest grade in the survey after the superintendent), in which capacity he remained until Dec. 31, 1899, when he was assigned to the discussion of the arc measurements in the United States resulting from the extensive triangulation executed by the organizations engaged in survey work. As early as 1855 he was in charge of the magnetic work of the survey, and in 1863 he was engaged in surveying the defenses of Washington. In 1869 he took a party to Illinois to observe the total eclipse of the sun, and in 1870 went to Catania, Sicily, to observe an eclipse. He represented the Coast Survey in 1898 at the International Conference on Terrestrial Magnetism, in Bristol, England, and later in the same year he was awarded by the French Academy of Sciences the Wilde prize on account of his researches and publications in the field of terrestrial magnetism. Mr. Schott was one of the founders of the Philosophical Society of Washington in 1871, and of the Washington Academy of Sciences in 1898. He was chosen a member of the National Academy of Sciences in 1872.



Besides his memoirs on the determination of the magnetic elements at the permanent observatories of the United States, and at a great number of temporary stations, and other papers contributed to the annual reports of the Coast Survey, he published, through the medium of the Smithsonian Institution, *Magnetical Observations in the Arctic Seas*, reduced and discussed from material collected by Elisha K. Kane (1858); *Meteorological Observations in the Arctic Seas*, likewise collected by Elisha K. Kane during the second Grinnell expedition (1859); *Astronomical Observations in the Arctic Seas*, from data collected by Elisha K. Kane (1860); *Tidal Observations in the Arctic Seas* (1860); *Meteorological Observations in the Arctic Seas*, from results made on board the arctic searching yacht Fox in Baffin Bay and Prince Regents Inlet in 1857-'59 (1862); *Physical Observations in the Arctic Seas*, from data collected by Isaac I. Hayes (1867); *Results of Meteorological Observations made at Brunswick, Me., between 1807 and 1859* (1867); *Results of Meteorological Observations made at Marietta, Ohio, between 1826 and 1859 Inclusive* (1868); *Tables and Results of the Precipitation in Rain and Snow in the United States, and at Some Stations in Adjacent Parts of North America, and in Central and South America* (1872; 2d ed., 1881); *Tables, Distribution, and Variations of the Atmospheric Temperature in the United States and Some Adjacent Parts of America* (1876); and *Magnetic Charts of the United States*, showing the distribution of the declination, the dip, and the intensity of the magnetic force (1882 and 1885). His last works were *The Transcontinental Triangulation and American Arc of the Parallel* (1900) and *The Eastern Oblique Arc of the United States* (1902).

Scott, Julian, artist, born in Johnson, Vt., Feb. 15, 1846; died in Plainfield, N. J., July 4, 1901. He studied at Norwich Academy, and at the outbreak of the civil war enlisted as a drummer-boy with the 3d Vermont Regiment. He served two years and a half and received a medal of honor for wading across a stream and rescuing wounded National soldiers while he was on the staff of Gen. William F. Smith. During his term of service he made many sketches that he afterward developed in his paintings. In 1863 he began his art studies at the National Academy of Design in New York city, and later studied in Paris under Emanuel Leutze. After his return to the United States, in 1868, he for a few years had a studio in New York, and in 1875 removed to Plainfield, N. J. In 1890 he was appointed a special commissioner to report upon the Indians of Oklahoma, Arizona, and New Mexico. His report was published in connection with the report upon the Indian population of the eleventh census, and included 40 of his sketches as illustrations. He spent three years in this work, and collected many valuable Indian relics. The Indians became very much attached to him, and made him a member of one of their societies. After 1870 he was an associate of the National Academy. He was widely known as a battle and figure painter. His *Battle of Antietam* was purchased by the late Elliott F. Shepard and presented to the 7th Regiment of New York; The Rear-Guard at White Oak Swamp hangs in the State-House at Montpelier, Vt.; and *The Death of Gen. Sedgwick* in the Plainfield Art Gallery. Other well-known pictures are *The Battle of Cedar Creek*; *Battle of Golding's Farm*; *The Recall*; *On Board the Hartford*; *Old Records*; *Duel of Burr and Hamilton*; *Reserves Awaiting Orders*; *Charge at Petersburg*; *The War is Over*;

and The Blue and the Gray. Several of his paintings are in the Boston Museum of Art; among others, The Song of the Ancient People, in 11 water-color paintings.

Sedgwick, Deborah Gannett, born in Cambridge, Mass., June 2, 1825; died in Syracuse, N. Y., Jan. 22, 1901. She was the daughter of the Rev. Thomas Brattle Gannett, a Unitarian clergyman, and at the age of sixteen she went to Brook Farm, where she remained two years. She then went to Syracuse to teach, and there married, June 22, 1847, Charles Baldwin Sedgwick, a prosperous lawyer of that city. Mrs. Sedgwick enjoyed the personal friendship of Hawthorne, Emerson, John S. Dwight, George William Curtis, Ellen Slade, Louisa M. Alcott, Charles A. Dana, Margaret Fuller, Theodore Parker, and Wendell Phillips, and she corresponded with most of them long after Brook Farm was discontinued. She published an interesting reminiscence of the life of the community in the *Atlantic Monthly* for March, 1900.

Sewell, William Joyce, Senator, born in Castletbar, Ireland, Dec. 6, 1835; died in Camden, N. J., Dec. 27, 1901. He came to the United States when eleven years old, and for a time was a sailor before the mast. Later he was employed in banking with his brother, and was in charge of a branch office in Minnesota. This bank failed, and he returned to New York, where for a time he was employed in a dry-goods house. At the outbreak of the civil war he was commissioned a captain in the 5th New Jersey Volunteers, Aug. 28, 1861. He participated in all the engagements in which his regiment took part to the battle of Spottsylvania, and was wounded at Chancellorsville and Gettysburg. He was promoted lieutenant-colonel in July, and colonel in October, 1862. In September, 1864, he became colonel of the 38th New Jersey Volunteers, with which he served till the close of the war. He was brevetted brigadier-general and major-general. After the war he became connected with the railroads in New Jersey, branches of the Pennsylvania Railroad system. He was elected State Senator in 1872, reelected in 1875, and again in 1878, and was president of that body in 1876, 1879, and 1880. In 1881 he was elected to the United States Senate, and he was again elected to that body in 1895. In 1877 he was made brigadier-general of the New Jersey National Guard, and in 1899 was appointed its major-general.

Shanks, John Peter Clever, lawyer, born in Martinsburg, W. Va., June 17, 1826; died in Portland, Ind., Jan. 23, 1901. He studied law in Indiana and began his practise there in 1850. In 1853 and 1854 he was a member of the Indiana Legislature. In 1860 he was elected to Congress. In 1861, after the battle of Bull Run, he entered the National army, and later served in Missouri as a member of Gen. Frémont's staff. He was again elected to Congress, serving from the Fortieth to the Forty-third. In Congress he was chairman of the Committee on Union Prisoners. Later he was appointed an Indian agent.

Shaw, Albert Duane, soldier, born in Lyme, N. Y., Dec. 27, 1841; died in Washington, D. C., Feb. 10, 1901. He was educated at Belleville Union Academy and Canton University. When the civil war broke out he enlisted in the 35th New York Volunteers. With this regiment he took part in the battles of Rappahannock Station, Bull Run, Chantilly, South Mountain, Antietam, and Fredericksburg. During the latter part of the war he was special agent of the War Department in the office of the provost-marshal at Watertown, N. Y. He was graduated at Law-

rence University in 1867, and in 1868 was a member of the New York Assembly. While serving in this capacity he was also appointed colonel of the 36th Regiment, National Guard. He resigned late in the same year to become United States consul at Toronto, Canada, where he remained ten years. In 1878 he was promoted to the consularship of Manchester, England, from which post he was removed in 1885 by President Cleveland. In 1900 he was elected to Congress.

Shaw, Thomas, inventor, born in Philadelphia, Pa., April 5, 1838; died there, Jan. 19, 1901. In 1858 he secured his first patent, and after that date perfected many contrivances, among them an apparatus for automatically testing gases in mines, improvements in the power-hammer and steel gage, a mercury steam-gage, a noiseless steam-exhaust, and a pump valuable for its ability to pump mud and sand. He was the first man in America to roll steel tires. In 1880 he built the wharf at the League Island Navy-Yard, employing one of his inventions, the gunpowder pile-driver.

Shepherd, Russell Benjamin, manufacturer, born in Fairfield, Me., Sept. 14, 1829; died in Skowhegan, Me., Jan. 1, 1901. He was graduated at Colby University in 1857. At the outbreak of the civil war he enlisted in the 18th Maine Volunteers; he was made adjutant, and later promoted colonel and brevet brigadier-general. He was president of the Skowhegan Pulp Company.

Sidman, Arthur, actor, born in Homer, N. Y., Aug. 3, 1863; died at Higgins Beach, Me., Aug. 12, 1901. He learned the printer's trade in the office of the *Homer Republican*; afterward he worked as a reporter on the paper, and was finally associated with the late Frank R. Slayton in editing the *Tully, N. Y., Times*. In Tully Mr. Sidman organized an amateur dramatic club that met with such success in its initial performance, Foiled, that he took the piece around a circuit of the neighboring towns, and finally he abandoned newspaper work to go about the State organizing amateur performances. In 1887 he began starring in his own play, Uncle Reub. In 1891 he married Ella M. Brooks, of Hornellsville, who afterward appeared with him. Squire Haskins and A Summer Shower were added to their repertoire. In 1892 Mr. and Mrs. Sidman entered vaudeville in Mr. Sidman's very humorous character sketch, A Bit of True Life, in which they continued successfully till Jan. 5, 1899, when at Wilmington, Del., they produced Mr. Sidman's Back Home. His impersonation of the shrewd, keen, big-hearted rustic placed him among the foremost of American character actors. He appeared as Myron Cooper, the old organ-builder, in a successful trial tour of his drama York State Folks, in the spring of 1901.

Sill, John Mahelm Berry, educator, born in Black Rock, N. Y., Nov. 23, 1831; died in Detroit, Mich., April 6, 1901. In 1854 he was graduated at the Michigan Normal School at Ypsilanti, and was immediately appointed Professor of English in that institution; for several years he was principal of the school. Later he was superintendent of the public schools of Detroit. In 1890 he was ordained a minister of the Protestant Episcopal Church. In 1893 he was appointed minister resident and consul-general for the United States in Korea. He was the author of *Synthesis of the English Sentence* (1856) and *Lessons in English* (1879). He received the degree of A. M. from the University of Michigan in 1871, and Master of Pedagogics from the Michigan State Normal College in 1892.

Simms, William Thomas, soldier, born in New York city, June 26, 1844; died there, Jan. 28, 1901. He was graduated at Columbia College Law School. In April, 1861, he enlisted in the 2d Regiment, New York State Militia, which went to the front as the 82d Regiment, New York Volunteers. He took part in many battles, and at Gettysburg was wounded four times. May 6, 1864, while serving as an aide on the staff of Gen. Alexander S. Webb, he received a severe wound in the head, which caused partial paralysis. In the autumn of 1864 he again joined his regiment, and was commissioned lieutenant and later captain. At the close of the war he was major of the 59th Regiment, New York Volunteers, with brevet rank of lieutenant-colonel.

Smith, Beaumont, actor, born in St. Louis, Mo., in 1860; died in Denver, Col., Aug. 14, 1901. He was a friend of Guy Lindsley and Edward S. Ables, and with them formed an amateur company. After considerable success they all entered the profession, Smith making his debut with Booth and Barrett in 1885. He appeared with them for several seasons, and then became associated with Mme. Modjeska and devoted himself chiefly to Shakespearean comedy characters. He was accounted a most excellent Touchstone, and his Lucio, in *Measure for Measure*, was highly commended. He also at intervals sang successfully in comic opera. In March, 1900, Mr. Smith appeared as Mr. Boswell in Stuart Robson's production of *Oliver Goldsmith* at the Fifth Avenue Theater, New York. In 1901 he became stage-director of the Woodward Stock Company, of Kansas City.

Sneed, John Louis Taylor, jurist, born in Raleigh, N. C., May 20, 1820; died in Memphis, Tenn., July 29, 1901. He was educated at Oxford Academy, in North Carolina, studied law in West Tennessee, and in 1843 settled in Memphis. In 1845 he was elected to the Tennessee Legislature. In 1846-'47 he was a captain in the Mexican War. In 1851 he was elected attorney-general of the Memphis judicial district, resigning three years later to become a candidate for Attorney-General of the State; he was elected and served till 1859. In 1861 he enlisted in the Confederate army, and later was commissioned brigadier-general of the provisional army of Tennessee. In 1870 he was elected a judge of the Supreme Court of Tennessee, which office he held eight years. In 1879 he served on the court of arbitration, and was judge of the State Court of Referees in 1883-'84. From 1887 till 1893 he was president of the Memphis Law School. He was the author of *Reports of the Supreme Court of Tennessee, 1854-'59*.

Snively, William Andrew, clergyman, born in Greencastle, Pa., Dec. 6, 1833; died in Louisville, Ky., March 2, 1901. He was graduated at Dickinson College in 1852, was ordained in the Methodist Church, and served it till 1865, when he entered the Episcopal ministry. He held rectorships in Cincinnati, Albany, Brooklyn, and New Orleans, but in 1892 gave up the ministry on account of failing health. He received the degree of S. T. D. from Columbia University in 1875. He was the author of *The Oberammergau Passion Play* (1881); *Esthetics in Worship* (1887); *Parish Lectures on the Prayer-Book* (1887); *Testimonials to the Supernatural* (1888); *Family Prayer for the Christian Year* (1888); *Genealogical Memoranda*; and *The Cathedral System in the American Church*.

Snook, John Butler, architect, born in London, England, July 16, 1815; died in Brooklyn, N. Y., Nov. 1, 1901. He came to New York city when a child and was educated in the private

schools. He became a master builder, but in 1842 turned his attention to architecture. He was in partnership with Joseph French eight years, in business alone till 1887, and then associated his sons with himself. He designed and erected, among other buildings, Niblo's Garden, the Metropolitan Hotel, the Hoffman House, All Angels' Church, and the Vanderbilt mansions in Manhattan, and the Hebrew Orphan Asylum and Packer Institute in Brooklyn.

Snow, Lorenzo, fifth president of the Mormon Church, born in Mantua, Ohio, April 3, 1814; died in Salt Lake City, Utah, Oct. 10, 1901. After studying in the schools of Ravenna, Ohio, and for a time at Oberlin. On a visit to Kirtland, Ohio, he met Joseph Smith and his fellow Mormons and was converted to their faith. In 1837 he was baptized and ordained an elder, and at once became one of their most aggressive and successful missionaries. In 1840 he was sent to England to aid Parley P. Pratt, president of the British mission. On his return to the United States he organized the Nauvoo Legion of Mormon troops, and he was also in charge of the Nauvoo School. He conducted the campaign planned to make Joseph Smith President of the United States in 1844, and though he took an active part in seeking the final home of the Mormons, he was prevented by illness from reaching Salt Lake till 1848. He was made one of the Twelve Apostles Feb. 12, 1849, and from that time was one of the most active and influential of the Mormon leaders. From 1852 till 1882 he served continuously in the Utah Legislature. He also took an active interest in educational affairs, and was at one time at the head of the High School in Salt Lake City. In 1849 he made a mission tour in Italy, another to the Hawaiian Islands in 1864, and in 1872 he made a tour of Europe and Palestine. In 1855 he founded Brigham City, Utah, where he established a successful cooperative system, beginning with a store, and afterward adding a tannery, a woolen factory, and several farms. He was made president of the Twelve Apostles in April, 1889, and president of the Temple, when it was opened in May, 1893. At a special meeting of the Council of Apostles, Sept. 13, 1898, he was elected president of the Church of Latter-Day Saints, to succeed Wilford Woodruff. He was the author of *The Italian Mission* (1851); *The Only Way to be Saved* (1851); *The Voice of Joseph* (1852); and *The Palestine Tourists* (an account of his journey in Europe and the Holy Land in 1872). He translated the Book of Mormon into Italian.

Starr, Eliza Allen, author, born in Deerfield, Mass., Aug. 29, 1824; died in Durand, Ill., Sept. 9, 1901. She became a Roman Catholic in 1850, and removed to Chicago a few years later. She was long prominent in Roman Catholic circles, and lectured much upon religious art. Several of her writings met with favor at Rome, and a medallion was sent to her by Pope Leo in appreciation. Her nature was exceptionally gentle and attractive, and greatly endeared her to a wide circle of friends. Her published works comprise *Patron Saints* (1871); *Pilgrims and Shrines* (1883); *Songs of a Lifetime* (1887); *A Long Delayed Tribute to Isabella of Castile as Discoverer of America* (1890); *Christmastide; Christian Art in our Own Age; What we See; Three Keys to the Camera Della Segnatura* (1895); *The Seven Dolours of the Blessed Virgin Mary* (1898); and *The Three Archangels and the Guardian Angels in Art* (1899).

Sterne, Simon, lawyer, born in Philadelphia, Pa., July 23, 1839; died in New York city, Sept. 22, 1901. He was graduated at the law depart-

ment of the University of Pennsylvania in 1859, was admitted to the bar in 1860, and removed to New York city, where he began to practise in 1861. He became the counsel for many large corporations and mercantile houses. Early in his career he paid especial attention to the study of political economy, and in 1863 and 1865 delivered lectures on that subject in Cooper Union. In 1864 he was one of the organizers of the American Free-Trade League, and became its secretary. In 1865 he published the *Social Science Review*. He was secretary of the Committee of Seventy in the fight against the Tweed régime, and drafted the charter of this committee and other legislation of the period. In 1875 he was appointed one of the commissioners to devise a plan for the government of cities in New York State. In 1895 he was one of the commission to recommend changes in the methods of administration. In 1896 he went to Europe to report on the relations between the railroad and governments of western Europe. He contributed many articles to magazines on economic and political subjects, and published *Our Representative Government* and *Personal Representation* (1871); *Suffrage in Cities* (1878); *Hindrances to Prosperity* (1879); and *Constitutional History and Political Development of the United States* (1882).

Sterrett, James P., jurist, born in Juniata County, Pennsylvania, Nov. 7, 1822; died in Philadelphia, Pa., Jan. 22, 1901. He was graduated at Jefferson College in 1845, and at the University of Virginia in 1848. He practised law in Pittsburg till 1861, when he was appointed a commissioner to revise the revenue laws of Pennsylvania. In 1862 he was appointed to fill the vacancy caused by the death of the president judge of Allegheny County; later in the year he was elected, as a Republican, to the same office, being reelected in 1872 by the votes of both parties. In 1877 he was appointed justice of the Supreme Court, and Feb. 21, 1893, was made chief justice. He resigned Jan. 1, 1900.

Stockley, Charles Clark, ex-Governor of Delaware, born in Sussex County, Delaware, Nov. 6, 1819; died in Georgetown, Del., April 20, 1901. In early life he was successively teacher, merchant, and farmer. In 1854 he was elected sheriff of Sussex County on the Democratic ticket. In 1872 he was elected State Senator, serving two terms, and in 1875, during his second term, was president of the Senate. In 1882 he was chosen Governor of Delaware. In 1896 he left the Democratic party on the money question and championed the cause of the gold Democrats.

Stoddard, Lorimer, actor and playwright, born in New York city in 1864; died in Sag Harbor, N. Y., Aug. 31, 1901. He was the only son of Richard Henry and Elizabeth Barstow Stoddard. In order to prepare himself for dramatic writing he became an actor, appearing first in minor parts with the Lyceum Theater company. His first pronounced success was at the Union Square Theater in 1887, when he played Trelawney, the young English nobleman, in the original production of *The Henrietta*, supporting Robson and Crane. He continued to act at intervals up to 1897, but his acting was always to him a matter of secondary importance. He appeared in New York city as Henry Achurch in the special performance of *The Globe-Trotter*, at the Garden Theater, in July, 1894; as Monte Jones in *The Governor of Kentucky*, supporting W. H. Crane, at the Fifth Avenue Theater, in January, 1896; and as Adolph Kleinbacher in the melodrama *New York*, at the American Theater, in February, 1897. He was for a time a member of Richard

Mansfield's company, and for Mr. Mansfield he wrote his first play, *Napoleon*, which was successfully produced at the Garrick Theater in December, 1895. A year later he dramatized Thomas Hardy's *Tess* of the D'Urbervilles, which was produced with great success by Mrs. Fiske at the Fifth Avenue Theater in March, 1897. In June of the same year his play, *The Question*, was presented by Daniel Frawley's company in San Francisco. His last work, with the exception of a play upon which he was at work at his death, was the dramatization of Marion Crawford's *In the Palace of the King*, in which Viola Allen made a notable success in the season of 1900-1901. He was also the author of several one-act plays. Personally Mr. Stoddard was a genial and attractive man, and from a literary as well as a dramatic point of view his work was of a high order.

Strecker, Herman, sculptor and naturalist, born in Philadelphia, Pa., March 24, 1836; died in Reading, Pa., Nov. 30, 1901. With his parents he removed to Reading in 1845. His first work as a sculptor was done when he was but twelve years old; one of his best-known works of art was the *Soldiers' Monument* at Reading. He devoted his leisure to the study of zoology, mineralogy, and especially butterflies, of which he had a collection of more than 300,000. He published *Lepidoptera*, *Rhopaloceres*, and *Heteroceres*, *Indigenous and Exotic* (1872-'77), and *Native and Exotic Butterflies and Moths* (1878).

Streeter, Alson J., politician, born in Rensselaer County, New York, in 1823; died in Galesburg, Ill., Nov. 24, 1901. He removed early to Illinois, where he became a farmer, and where throughout his life he interested himself in bettering the condition of the agricultural and laboring classes. He was the candidate of the National Labor party for President of the United States in 1888, and three years later for United States Senator, and conducted both campaigns with great earnestness in the face of sure defeat.

Studebaker, Clement, manufacturer, born in Gettysburg, Pa., March 12, 1831; died in South Bend, Ind., Nov. 27, 1901. With his parents he removed to Ashland County, Ohio, in 1836, and learned the blacksmith trade. In 1850 he went to South Bend, where he taught school during the winter of 1850-'51. In February, 1852, he started in the blacksmith business with his brother Henry, and among the first work turned out by them was a contract for 100 wagons for the Government. In 1868 their company was incorporated as the Studebaker Brothers Manufacturing Company; he was its president. He was a delegate at various times to National Republican conventions, commissioner for Indiana to the Paris Exposition of 1878, also to the New Orleans Exposition, president of the Indiana Board of World's Fair Managers, member of the Pan-American Congress, and a trustee of Depauw University.

Sudsbury, Joseph Maria, soldier, born in Munich, Germany, March 17, 1827; died in Baltimore, Md., April 8, 1901. He entered the Bavarian army, and after several years' service was appointed 2d lieutenant in the Royal Artillery. In 1848 he took part in the struggle of the people against the King, and after the defeat that came to his party he went to Switzerland. Later he went to France, where he served as a private in the Legion of Strangers under Marshal McMahon. He came to the United States, and in April, 1861, enlisted as a private in the 2d Maryland Regiment, National army. He was elected captain of his company, and later recruited the

1st German Rifles, which were consolidated with the 3d Maryland Regiment, and with them took part in many battles in the valley of Virginia. He was successively appointed colonel and brevet brigadier-general.

Sunderland, Byron, clergyman, born in Shoreham, Vt., Nov. 22, 1819; died in Catskill, N. Y., June 30, 1901. He was graduated at Middlebury College in 1838, and at Union Theological Seminary, New York city, in 1843. His first charge was the Presbyterian Church at Batavia, N. Y., where he remained from 1845 till 1851. For a time he was at the Park Presbyterian Church, Syracuse, N. Y., as pastor-elect, but before his installation he was called, in February, 1853, to the First Presbyterian Church, Washington, D. C. His service there was almost continuous till his death. In 1864-'65, on account of impaired health, he went to Paris, and there had charge of the American chapel. In 1898 he was retired as pastor emeritus, but in March, 1899, he was again made active pastor. During the civil war and again from 1873 till 1879, he was chaplain of the United States Senate. He received the degree of D. D. from Middlebury College in 1855.

Sweet, Alexander Edwin, humorist, born in St. John, New Brunswick, March 28, 1841; died in New York city, May 20, 1901. When he was nine years of age his parents settled in Texas. He was sent to Karlsruhe, Germany, where he was graduated at the Polytechnic School in 1861. Returning to Texas, he served in the civil war as a private in the 37th Texas Cavalry. After the war he studied law, and was admitted to the bar in 1868. He practised several years, at the same time engaging in newspaper work. In 1875 he became city editor of the Galveston News. His humorous sketches attracted attention, and in 1881 he started in Austin Texas Siftings, of which he was editor and half-owner. In 1883 this paper was removed to New York city. Mr. Sweet was connected with its publication till 1895. Among the humorous characters he created was Colonel Bill Snort, confidential adviser to the President. His published books include *Three Dozen Good Stories* (1887) and *On a Mustang through Texas* (1888).

Swinton, John, journalist, born near Edinburgh, Scotland, Dec. 12, 1829; died in Brooklyn, N. Y., Dec. 15, 1901. He removed with his parents to the United States in 1843, and, after spending some time in the West as a journeyman printer, went to New York city in the early fifties. As a preparation for newspaper work he took up the study of law and medicine, at the same time writing for the press. In 1860 he became connected with the New York Times as editorial writer, remaining with that paper till 1870. From 1875 till 1883, and again from 1893 till 1897, he was an editorial writer on the New York Sun. From 1874 he was busy as an orator and writer, championing the cause of the poor and oppressed, and in the autumn of that year he was nominated for mayor of New York by the Industrial Political party. From 1883 till 1887 he published weekly *John Swinton's Paper*, by means of which he spread his ideas on social and industrial questions. In the municipal campaign of 1887 he was a candidate of the Progressive Labor party for State Senator. Besides his newspaper work, he published *The New Issue* (1870); *Eulogy of Henry J. Raymond* (1870); *John Swinton's Travels* (1880); *Oration on John Brown* (1881); and *Striking for Life* (1894).

Tanner, John Riley, ex-Governor of Illinois, born near Booneville, Ind., April 4, 1844; died in Springfield, Ill., May 23, 1901. He was educated

in the district schools. He enlisted in the 98th Illinois Infantry, was transferred to the 61st Illinois Infantry, and was mustered out of the service in November, 1865. After the war he settled in Clay County and became a farmer. In 1870 he was elected sheriff, and in 1872 circuit-court clerk. In 1877 he was appointed master in chancery of the circuit court. In 1880 he was elected to the State Senate. In 1883 he was appointed United States marshal of the Southern District of Illinois, but he was removed by President Cleveland. In 1886 he was elected State Treasurer, and in 1890 was appointed railway commissioner. In May, 1892, he was made assistant treasurer of the United States Treasury at Chicago. In 1894 he was elected chairman of the Republican State Central Committee. In 1896 he was the Republican candidate for Governor, and was elected by a large majority over John P. Altgeld.

Taylor, James Edward, artist, born in Cincinnati, Ohio, Dec. 12, 1839; died in New York city, June 22, 1901. He was educated at the University of Notre Dame, South Bend, Ind. He showed remarkable skill with pencil and brush at an early age, and just after his graduation he painted a panorama of the American Revolution. In 1860 he went to New York city to study art, but he enlisted in the 10th New York Regiment. During his leisure time he prepared many sketches of camp life and incidents. After two years' service as a private he was engaged by Frank Leslie as war correspondent and artist. At the close of the war he returned to act as special artist for the same publisher. In 1867 he was the detailed artist to the Peace Commission with the Indians, and the pictures he sent from the West at this time gained him the sobriquet of "the Indian artist." He severed his connection with Leslie's in 1883 and devoted his time thereafter to illustrating for magazines and painting water-colors. Among his paintings was *The Last Grand Review*, painted for Gen. Sherman. Four of his pictures are in the public library at Washington.

Temple, Robert, engineer, born in Spottsylvania County, Virginia, in September, 1831; died in Richmond, Va., Dec. 22, 1901. He began his career as a rodman on the New Orleans, Jackson and Great Northern Railway in 1852, and was afterward engaged in some of the most important railway construction in the South. He was principal assistant in the building of the great bridges over the Missouri river at St. Charles and Kansas City, and over the Ohio at Cincinnati. During the civil war he was connected with the engineering department of the Confederate army, and was stationed in Texas. In 1879 and 1880 Major Temple was general superintendent of the Greenville and Columbia Railroad; in 1880-'81, chief engineer of the Richmond and Allegheny Railway; from 1881 to 1886, chief engineer of the Georgia Pacific Railway; in 1887 and 1888, chief engineer of the Memphis, Birmingham and Atlantic, and of the Tennessee Midland Railway; and later was employed as chief engineer in the construction of the Georgia, Carolina and Northern Railway, the Atlanta extension of the Seaboard Air-Line.

Thayer, Joseph Henry, educator and author, born in Boston, Mass., Nov. 7, 1828; died in Cambridge, Mass., Nov. 26, 1901. He was graduated at Harvard in 1850, spent four years in teaching and traveling, and then studied theology at Andover, where he was graduated in 1857. He occupied the pulpit of the Evangelical Congregational Church in Quincy, Mass., one year, and in December, 1859, became pastor of Crombie Street

Church in Salem. From September, 1862, to June, 1863, he was in the field as chaplain of the 40th Massachusetts Infantry. In February, 1864, he resigned his pastorate and became Professor of Sacred Literature in Andover Theological Seminary. He held this chair eighteen years, and then



removed to Cambridge, where in 1884 he was chosen Bussey Professor of New Testament Criticism in Harvard Divinity School. He held that professorship continuously till 1901, when he was made professor emeritus. Meanwhile he was a member of the Harvard Corporation from 1877 to 1884, and from the autumn of 1872 to the autumn of 1880 he was a member of the American

Committee of Revision of the New Testament, and acted as its secretary. The committee held monthly meetings in New York during the eight years of its existence. Prof. Thayer was one of the last survivors of its seventeen members, and was very active in the preparation of the American Standard Edition of the Revised New Testament, which was brought out in August, 1901. His original publications were these: A biographical sketch of Ezra Abbot (1884); a Greek-English Lexicon of the New Testament (1886); The Change of Attitude toward the Bible (1891); Books and their Use (1893); and contributions to Smith's Bible Dictionary, Hastings's Dictionary of the Bible, and the Journal of Biblical Literature, besides occasional sermons and reviews. He edited Abbot's Critical Essays (1888), and Sophocles's Greek Lexicon (1888); translated Winer's New Testament Grammar (1869) and Buttmann's New Testament Grammar (1873), and wrote the notes to Scrivener's Plain Introduction (1885). His Lexicon of the New Testament is spoken of by scholars as a monument of learning and labor. In 1864 he was made A. M. at Harvard; he received the degree of D. D. from Yale, Harvard, and Princeton, and in 1892 the degree of Litt. D. from Trinity College, Dublin, Ireland. He was a member of the American Academy of Arts and Sciences, the American Oriental Society, the American Philological Association, and the Society of Biblical Literature and Exegesis. Prof. Thayer was prominent in the work of establishing the new School for Archeological Study at Jerusalem, in which he, more perhaps than any one else, took the initiative, and to which he gave unremitting effort in the last year of his life.

Thoburn, Isabella, missionary, born near St. Clairsville, Ohio, March 29, 1840; died in Lucknow, India, Sept. 1, 1901. She was educated at Wheeling Female Seminary, studied drawing and painting in Cincinnati, and for a long time was a teacher. In November, 1869, she sailed for India as the first representative of the Women's Foreign Missionary Society. She settled in Lucknow, where her brother, Dr. James M. Thoburn, had been an active missionary ten years. From that time till her death this was the center of her work. She was for many years president of the College for Women and Girls in Lucknow.

Thomas, John Rochester, architect, born in Rochester, N. Y., June 18, 1848; died at Westminster Park, Thousand Islands, Aug. 27, 1901. He was educated in the public schools, and later pursued a university course but did not take a degree. His architectural training was received under Merwin Austin, whose office he entered when fifteen years old. He began to practise his profession in 1868. In 1874 he was commissioned by Gov. Dix as architect and sole commissioner for the erection of the Elmira State Reformatory. He went to New York city in 1882 to supervise the erection of the Baptist Church in West Fifty-Seventh Street. In addition to more than 150 churches, he designed the asylum at Willard, N. Y., the 8th Regiment Armory in New York city, the New Jersey State Reformatory at Rahway, and the eastern New York Reformatory at Ellenville. Among his notable achievements was the building of the two drill-rooms of the combined armories of the 71st Regiment and the 2d Battery, one above the other, free from all columns, and 150 by 200 feet in area. In 1896 his design for a new City Hall received the first prize among 133 designs. His latest commission was the planning of the new Hall of Records for New York city.

Thompson, George W., actor, born in New York city in 1836; died there, June 12, 1901. He made his first appearance on the stage of the old Chatham Theater, in New York, when fifteen years old, and played successively at the Broadway Theater, the Adelphi Theater, in Troy, N. Y., Barnum's Museum, and on a Western tour with a traveling company till 1856, when he became leading man at the Old Bowery, then under the management of Fox and Lingard. Here he played in support of Edwin Forrest, E. L. Davenport, John E. Owens, Edward Eddy, Lucille Western, and others, till the destruction of the theater by fire in 1866. For the next three seasons he was leading man in Pastor's company, and then for one year managed the Seavey Opera-House, Brooklyn. In 1868, Mr. Thompson with some of his friends organized the order of Jolly Corks, the name of which was afterward changed to the Elks. In the season of 1870-71 he made a starring tour on the Pacific coast, and for the three years following was engaged in managerial ventures in St. Louis and St. Joseph, Mo. In 1875 he starred jointly with Gus Phillips in his own play, Yacup, acting alternately Irish and German characters. He was next successively leading man at Fox's and the New National Theaters, in Philadelphia, and for the three seasons following 1878 played the leading part in The Gold King. He was next engaged to support Louis Aldrich in My Partner, and remained with him a long time, taking Mr. Aldrich's place in the star rôle during the latter's severe illness. He afterward played in Bartley Campbell's Siberia, and for nine seasons with Harry Williams in The Waifs of New York and The Bowery Girl, and in support of Frank Daniels and Katie Emmett. He was best known for his German and Irish comedy parts. After 1860 Mr. Thompson gave serious attention to collecting theatrical curios, dramatic literature, and play-bills, and accumulated a valuable collection, which after his retirement from the stage, in 1897, he put on exhibition and sale in his house in Brooklyn.

Thompson, Maurice, author, born in Fairfield, Ind., Sept. 9, 1844; died Feb. 15, 1901. His parents, who were from the South, removed to Kentucky and thence to the hill region of northern Georgia. The son was educated by private tutors, and early became interested in the study

of outdoor life. He served through the civil war in the Confederate army, and at its close returned to Indiana, where he engaged in civil engineering. Later he studied law and practised in Crawfordsville, Ind. He was elected to the Legislature in 1879, and in 1885 was appointed State geologist of Indiana and chief of the department of Natural History, and served till 1889. In addition to many magazine articles he is the author of *Hoozier Mosaics* (1875); *The Witchery of Archery* (1878); *A Tallahassee Girl* (1882); *His Second Campaign* (1882); *Songs of Fair Weather* (1883); *At Love's Extremes* (1885); *Byways and Bird Notes* (1885); *The Boys' Book of Sports* (1886); *A Banker of Bankersville* (1886); *Sylvan Secrets* (1887); *The Story of Louisiana* (1888); *A Fortnight of Folly* (1888); *Poems* (1892); *Ethics of Literary Art* (1893); *Stories of the Cherokee Hills*; *Toxophilus in Arcadia*; *The Ocala Boy*; *The King of Honey Island*; *Lincoln's Grave* (poem); and *Alice of Old Vincennes* (1901).

Tilghman, Benjamin Chew, soldier, born in Philadelphia in 1821; died there, July 3, 1901. He was a graduate of the University of Pennsylvania, and studied law, but never practised. At the beginning of the civil war he enlisted in the 26th Pennsylvania Volunteers. He was severely wounded in the battle of the Wilderness, and returned home. After his recovery he commanded a colored regiment. He was one of the founders of the Union League.

Todd, Robert Barr, jurist, born in Lexington, Ky., Jan. 17, 1826; died in Brooklyn, N. Y., Feb. 4, 1901. He was graduated at the University of Missouri in 1843. In 1846 he accompanied Doniphan in his military expedition to Mexico. In 1848 he settled in Bastrop, La., where he resided till a short time before his death. He served several terms in both houses of the Louisiana Legislature. In 1860 he was a member of the Constitutional Convention, and voted for the secession of his State. In 1880 he was appointed to the Supreme Court of Louisiana, and he held that office eight years.

Tojetti, Virgilio, artist, born in Rome, Italy, March 15, 1851; died in New York city, March 27, 1901. He studied in Paris under Gérôme for drawing and Bougereau for coloring, and came to the United States in 1870. He exhibited a scene from Bulwer-Lytton's *Richelieu* at the National Academy of Design about 1883, and it was sold for \$4,000, the highest price up to that date for a picture in the Academy. The Cornelius Vanderbilt house, the Savoy Hotel, the Hoffman House, in New York city, and Keith's theaters in Boston and Providence give examples of his decorative work. Among his easel paintings are *Galatea*, *The Two Roses*, *Burst of Melody*, *Sorrow*, *The Veiled Prophet of Khorassan*, *Out of the Gates of Paradise*, *Love's Temptation*, and *The Favorite*.

Townsend, Mary Ashley, author, born in Lyons, N. Y., in 1836; died in Galveston, Texas, June 7, 1901. Her maiden name was Van Voorhis. She was educated in the schools of her native town, and began to write for publication about 1856 under the pen name *Xariffa*. She first attracted general attention as the author of *Quillotypes*, a series of humorous papers that appeared in the *Delta*, a New Orleans paper, in which city she resided after her marriage to Gideon Townsend. She was appointed to deliver the poem on the opening of the New Orleans Exposition in 1884, and that at the unveiling of the statue of Gen. Albert Sidney Johnston in 1887. She published *The Brother Clerks* (1859); *Poems* (1870); *The Captain's Story* (1874); *Down the Bayou*, and *Other Poems* (1884); and *Distaff and Spindle*. Her most im-

portant short poems are *Creed*, *A Woman's Wish*, *The Bather*, and *The Wind*.

Trenholm, William Lee, banker, born in Charleston, S. C., Feb. 3, 1836; died in New York city, Jan. 11, 1901. He was graduated at the College of South Carolina in 1855, and immediately went into the cotton business with his father. At the outbreak of the civil war he raised and equipped for the Confederate army a regiment known as the Rutledge Mounted Riflemen, and with it he served as colonel through the war. After the war he returned to the cotton business. In 1885 he was appointed United States Civil Service Commissioner. After serving one year he was made Comptroller of the Currency, and he held that office till 1889. At the close of his term he accepted the presidency of the American Surety Company of New York city. In 1897 he resigned this office and in 1898 became president of the North American Trust Company. He retired from active business in May, 1899. He was the author of *The People's Money* (1893).

Tucker, William Wallace, inventor, born in New Britain, Conn., Dec. 13, 1838; died in Hartford, Conn., July 7, 1901. He entered the Stevens shop in Brookfield, Mass., and at the age of nineteen was its superintendent. Later he removed to Westerly, R. I., where he was employed by Cottrell & Babcock, manufacturers of printing-presses. In 1861 he entered the employ of the Pratt & Whitney Company, Hartford, where he remained till March, 1898, when he entered into business with his son as the Tucker Supply Company. He was the inventor and patentee of many parts of the automatic screw machines.

Turchin, John Basil (Ivan Vasilevitch Turchininoff), soldier, born in the province of Don, Russia, Jan. 30, 1822; died in Anna, Ill., June 19, 1901. He was graduated at the Artillery School in St. Petersburg in 1841, and was appointed an ensign in the artillery service. He took part in the Hungarian campaign, and was graduated at the military academy for officers of the general staff in 1852. In the Crimean War he reached the rank of colonel of the Imperial Guards. He removed to the United States in 1856, and was employed as a civil engineer by the Illinois Central Railroad till the outbreak of the civil war. He was commissioned colonel of the 19th Illinois Volunteers in July, 1861, and joined Gen. Buell in Tennessee, where the latter placed him in command of a brigade. Turchin offered a plan to his superior officers for the capture of Huntsville that was accepted and proved successful. In recognition of this service he was made a brigadier-general of volunteers, and served in the Army of the Cumberland till October, 1864, when he resigned. After the war he was a solicitor of patents in Chicago, and in 1870 he resumed his profession of civil engineering. In 1873 he established the Polish colony of Radom, in Washington County, Illinois, where he afterward lived. In April, 1901, he was pronounced insane. He wrote for scientific and military periodicals, and published *Military Rambles* and *The Campaign of Chickamauga*.

Tuttle, Henry H., inventor, born in Iowa, Dec. 19, 1844; died in Tacoma, Wash., Oct. 9, 1901. He removed to Tacoma in 1889 and practised medicine till 1898, when he abandoned his profession to study and experiment in explosives. Thorite, which he had invented, was the result of his experiments shortly after the beginning of the Klondike craze while he was working for an explosive to use in the frozen ground of that region. The invention at once attracted attention in army circles in Washington, and

successful tests were made by the Government. Congress appropriated \$50,000 for the purchase of the thorite invention in conjunction with the Isham shell, but the negotiations never were completed on account of technical difficulties.

Tuttle, Joseph Farrand, educator, born in Bloomfield, N. J., March 12, 1818; died in Indiana, in June, 1901. He was graduated in Marietta College in 1841, and at Lane Theological Seminary, Cincinnati, in 1844. From 1845 till 1847 he was pastor of the Presbyterian Church in Delaware, Ohio, and from 1847 till 1862 in Rockaway, N. J. In 1862 he was chosen president of Wabash College, Indiana. He held the office till June, 1892, when he was retired.

Uhl, Edwin Fuller, lawyer, born in Rush, N. Y., Aug. 14, 1841; died in Grand Rapids, Mich., May 17, 1901. He removed with his parents to Michigan in 1844, was graduated at the University of Michigan in 1862, studied law, and in 1864 was admitted to the bar. In 1871-'72 he was prosecuting attorney for the county of Washtenaw. In 1876 he removed to Grand Rapids, where for eleven years he was a law partner of Lyman D. Norris. In 1890 he was elected mayor of Grand Rapids, and in 1891 was reelected. In October, 1893, he was appointed Assistant Secretary of State by President Cleveland, and during the illness of Secretary Gresham Mr. Uhl was for a time the *de facto* Secretary of State. The most important matter entrusted to him while holding this office was the arbitration of the boundary between Brazil and the Argentine Republic. In February, 1896, he was appointed Ambassador to Germany. A year later he resumed his practise.

Van Santvoord, Cornelius, clergyman, born in Belleville, N. J., April 8, 1816; died in Kingston, N. Y., Oct. 31, 1901. He was graduated at Union College in 1835, and took a theological course at Rutgers and Princeton. His first charge was in Canastota, N. Y., in 1838, and he continued in the ministry at various places till the outbreak of the civil war. He was appointed chaplain of the 20th New York Regiment, and later was made chaplain in the regular army, being stationed at Nashville and Louisville. While in these cities he was war correspondent for the New York Times. In 1869 he became associate editor of the Chicago Republican. From 1871 till 1876 he served as school commissioner of Ulster County, New York. He was the author of Discourses on Special Occasions and Miscellaneous Papers (1856); Memoir of Eliphalet Nott (1876); and Limitation of the Liabilities of Ship Owners under the Laws of the United States (1887). He received the degree of D. D. from Rutgers in 1853.

Van Vliet, Stewart, soldier, born in Ferrisburg, Vt., July 21, 1815; died in Washington, D. C., March 29, 1901. He was graduated at West Point in 1840 and assigned to the 3d Artillery as 2d lieutenant; promoted 1st lieutenant, Nov. 19, 1843; captain, Dec. 24, 1853. He was made regimental quartermaster March 28, 1847, and assistant quartermaster June 4, 1847. He was appointed assistant quartermaster-general with rank of colonel June 6, 1872, and retired Jan. 22, 1881. His early services consisted mainly of garrison duty in Louisiana, Georgia, and South Carolina. In the war with Mexico he took part in the battle of Monterey and the siege of Vera Cruz. In 1847 he was on duty with the Missouri Mounted Volunteers who protected the Oregon route. Later he fitted out Gen. Johnston's expedition against the Mormons. In the civil war he was appointed quartermaster with rank of major, Aug. 3, 1861, and promoted brigadier-general of

volunteers Sept. 23, 1861. He became chief quartermaster of the Army of the Potomac and was present at the siege of Yorktown and the battles of Fair Oaks, Gaines Mill, and Malvern Hill. He was brevetted lieutenant-colonel, colonel, and brigadier-general Oct. 28, 1864, and major-general March 13, 1865, for distinguished service in the quartermaster's department.

Very, Lydia Louisa Anna, educator and author, born in Salem, Mass., Nov. 2, 1823; died there, Sept. 10, 1901. She was a sister of the late Rev. Jones Very, and for thirty-four years taught in the schools of her native town. She contributed both verse and prose to the Salem and Boston newspapers, and possessed some skill as an artist. Her writings include Poems (1856); Poems and Prose Writings (1890); Sayings and Doings among Insects and Flowers (1897); Sylph, the Organ-Grinder's Daughter (1898); A Strange Disclosure (1898); A Strange Recluse (1899); and An Old-fashioned Garden and Walks and Musings Therein (1900).

Waite, Davis Hanson, ex-Governor of Colorado, born in Jamestown, N. Y., April 9, 1825; died in Aspen, Col., Nov. 27, 1901. He was educated in the village school and Jamestown Academy, and studied law. In 1850 he removed to Wisconsin, where he was engaged in mercantile pursuits in Fond du Lac and Princeton. In 1857 he was elected to the Legislature. He went to Missouri in 1859, and taught school in Houston two years. In 1861 he returned to Jamestown, where he edited the Chautauqua Democrat, a Republican newspaper; later he purchased the Jamestown Journal, which he published till 1876. In 1876 he emigrated to Larned, Kan., where he practised law and conducted a ranch three years. In 1879 he went to Leadville, Col., practised law there two years, and then settled in Aspen. There he practised law and edited the Union Era, a reform paper. He was one of the organizers of the People's Party and was a delegate to their convention in Omaha in 1892. The same year he was elected Governor of Colorado by the Populists. His administration was tempestuous. By a spirited political utterance while Governor he earned the sobriquet "Bloody Bridles Waite." Twice he called out the militia, once to maintain order in Cripple Creek during the miners' strike, and again to seat his appointees on the Denver Fire and Police Board. He was defeated for reelection in 1894.

Walker, James Alexander, soldier, born in Augusta County, Virginia, Aug. 27, 1832; died in Wytheville, Va., Oct. 20, 1901. He was graduated at the Virginia Military Institute in 1852, studied law at the University of Virginia, and was admitted to the bar in 1856. At the outbreak of the civil war he entered the Confederate army as captain of an infantry company known as the Pulaski Guards, which became Company C of the 4th Virginia Infantry. In March, 1862, he was made colonel of the regiment, and in May following was appointed brigadier-general and assigned to the command of the "Stonewall Brigade," which he led till wounded at Spottsylvania. During 1864 he was in charge of reserves in Virginia. In February, 1865, he was assigned to Gen. Early's division, which he commanded at the surrender at Appomattox. After the war he resumed the practise of law. In 1872 he was a member of the Virginia Legislature, and in 1877 he was Lieutenant-Governor of the State. He was twice elected to Congress as a Republican.

Wallace, William Henry, jurist, born in South Carolina, March 24, 1827; died in Union, S. C., March 21, 1901. He was graduated at

South Carolina College and studied law. Later he became a planter and then the editor of a newspaper in Union. During the civil war he enlisted in the Confederate army and rose to the rank of brigadier-general. In 1872 he was elected to the Legislature of South Carolina, and in 1876 was made Speaker of the lower house. In 1877 he was elected judge of the 7th Circuit, and he held the office sixteen years.

Ward, Lebbeus Baldwin, civil engineer, born in Vergennes, Vt., Feb. 12, 1834; died in Jersey City, N. J., July 2, 1901. He was associated with his father, John D. Ward, a noted engineer, who installed the first water plant in Jersey City, assisted in the construction of the Erie Railroad tunnel, and of the Morris and Essex Canal, in many of his important undertakings, and early acquired the knowledge of the New Jersey water-supply that later made him one of the most eminent authorities in the State. He was at one time president of the Norfolk, Va., Water Company, but he devoted his life chiefly to a study of the conditions of the water-supply for Jersey City. He was also a member of the State Board of Geological Survey.

Ward, William Greene, soldier, born in New York city, July 20, 1832; died there, Jan. 16, 1901. He was graduated at Columbia College in 1851. During the civil war he was in the service of the United States as lieutenant-colonel of the 12th Regiment, New York Militia, from April 19 till Aug. 4, 1861. He was also colonel of the same regiment from May 31 till Oct. 8, 1862. He participated in the defense of Harpers Ferry and was paroled at its surrender, Sept. 15, 1862. Subsequently he served in the Pennsylvania campaign in Dana's Division and Couch's Corps.

Warner, Neil (William Burton Lockwood), actor, born in London, England, in 1821; died in New York city, in June, 1901. He was educated for the ministry, but became interested in dramatic study and made his first appearance at the Marylebone Theater, London. After further experience in various London theaters, he went to Australia and starred successfully in the principal theaters, appearing in standard drama, chiefly in tragic rôles. In 1868 Mr. Warner came to the United States and made his American début in San Francisco, after which he played on a tour across the continent, and made his first appearance in New York at the New York Theater in the rôle of Othello. After this engagement he acted at the old Bowery Theater, Niblo's Garden, the Grand Opera-House, Wallack's, and at Mrs. F. B. Conway's Brooklyn Theater. He married Miss Bella Chippendale, of Mrs. Conway's company, and with his wife went to St. John, New Brunswick, and played there for one season. Then he went to Montreal and, in partnership with Eugene MacDowell, became manager of the Theater Royal, afterward assuming the management of the Montreal Academy of Music. He made two visits to San Francisco, playing leading rôles in the stock companies in that city. He returned to New York and appeared in Bronson Howard's play, *Aristocracy*, afterward joining Kate Claxton's company, in which he made his last appearance. Mr. Warner was a cousin of Ouida, the novelist.

Warren, Orris Hubert, editor, born in Stockbridge, N. Y., Jan. 3, 1835; died in Syracuse, N. Y., Nov. 23, 1901. He was graduated at Oberlin College in 1858, spent four years in teaching, and in 1862 was ordained by the Oneida Conference of the Methodist Church. For twelve years he served in Utica, Cazenovia, Ithaca, and Baldwinsville. On account of failing health he re-

tired from the ministry in 1873. He became assistant editor of the *Northern Christian Advocate*, and in 1876 was made its editor. He held that place by quadrennial elections of the General Conference till June 1, 1892. In 1877 he was elected a regent of the University of the State of New York. He received the degree of D. D. from Syracuse University in 1878.

Waterman, Lewis Edson, inventor, born in Decatur, N. Y., Nov. 20, 1837; died in Brooklyn, N. Y., May 1, 1901. For a time he taught school in winter and worked at the carpenter's trade in summer. From 1864 till 1870 he represented at Boston the *Ætna Life Insurance Company* of Hartford. His inventive genius turned toward fountain pens, and, after experimenting ten years, in 1883 he placed his first perfected results upon the market. He also originated a successful preserving and condensing process for keeping fresh the juice of grapes.

Weber, Max, soldier, born in Achern, Germany, in 1824; died in Brooklyn, N. Y., June 15, 1901. He was educated at the military academy at Carlsruhe and became a lieutenant. At the outbreak of the German revolution in 1848, with his regiment he joined the insurrectionists, and was elected colonel. After the suppression of the revolution he came to New York city, and for a long time conducted a hotel at William and Frankfort Streets, which was a rendezvous for German refugees. At the outbreak of the civil war he organized what was known as the Turner regiment, of which he was made colonel. May 12, 1862, he was promoted brigadier-general. After the war he was appointed consul at Nantes, France. Later he was tax assessor in New York city, and under President Grant was collector of internal revenue.

Westcott, Robert Folger, organizer of an express company, born in New York city, Nov. 26, 1828; died near Richfield Springs, N. Y., July 19, 1901. When a mere boy he started in New York city a local express line, beginning with one wagon. He extended this from time to time, and then joined the Dodds, who organized Dodd's Express Company. Later he established a company under his own name, of which for a long time he was president. It increased in extent and prosperity until it became one of the principal agencies for local transportation of merchandise and baggage. His interests passed some years ago into the control of a stock company. His summer home was at Richfield Springs, of which village he was elected president in 1891.

Whipple, Henry Benjamin, clergyman, born in Adams, Jefferson County, N. Y., Feb. 15, 1822; died in Faribault, Minn., Sept. 16, 1901. He prepared for college, but on account of ill health entered mercantile life and became active in political affairs. At length he took a private theological course and was ordained deacon in the Episcopal Church in 1849 and priest in 1850. He was rector of Zion Church, Rome, N. Y., 1850-'57, and of the Church of the Holy Communion in Chicago, 1857-'59. In October, 1859, he was consecrated the first Bishop of Minnesota. Very shortly after his elevation to the episcopate he was prominent among the organizers of the Seabury Mission at Faribault, from which have sprung the cathedral of Our Merciful Saviour, Seabury Divinity School, St. Mary's Hall, a school for girls, and the Shattuck School for Boys. For many years Bishop Whipple was known as "the apostle to the Indians," and the Indians themselves gave him the appellation of "Straight Tongue." Few men have comprehended the various phases of the difficult problem so perfectly as

he, and it is quite safe to say that scarcely a reform in the management of Indian affairs that has taken place within the past forty years was unforeseen as needful in his judgment of the matter during the first year of his episcopate. At the time of the Sioux massacre in 1862 Bishop Whipple declared that the blame was directly traceable to the false dealing of the whites with their Indian neighbors, and when threatened with violence for saying this, replied: "These things are true, and the nation needs to know them; and, so help me God! I will tell them if I am shot the next minute." In 1876 the bishop secured the Sioux treaty, which opened the most fertile parts of Dakota to white settlement. The counsel and advice of Bishop Whipple were sought in relation to Indian affairs by every President of the United States from Lincoln to McKinley. He had traveled extensively, and was well known and honored in England as well as at home, and was revered by men of all creeds and no creed. Besides vigorous pamphlets on the Indian question and sermons and charges, the bishop published *Lights and Shadows of a Long Episcopate* (1899), in which will be found a very strong presentation of the Indian problem.

White, Greenough, clergyman, born in Cambridge, Mass., in 1863; died at Sewanee, Tenn., July 3, 1901. He was educated at Harvard, and was graduated at the Episcopal Theological School in Cambridge in 1892, being admitted to the priesthood in 1896. While still in deacon's orders he had been in charge of St. James's Church, West Hartford, Conn., 1893-'94, but this was his only pastorate. He was Professor of English Literature in the University of the South, at Sewanee, 1886-'87, and of History and Political Economy at Trinity College, Hartford, 1893-'94. He then returned to Sewanee, and was Professor of Ecclesiastical History and Polity there from 1894 until his death. He was the author of *Outline of the Philosophy of English Literature* (1895); *A Saint of the Southern Church: A Memoir of Nicholas Hamner Cobbs* (1897); *An Apostle of the Western Church: A Memoir of Rt. Rev. Jackson Kemper* (1899); *An Outline of the Philosophy of American Literature*; and *The Rise of Papal Supremacy*. He edited *Matthew Arnold and the Spirit of the Age* (1898).

White, Stephen Mallory, lawyer, born in San Francisco, Cal., Jan. 19, 1853; died in Los Angeles, Cal., Feb. 21, 1901. He was graduated at Santa Clara College in 1871, studied law, was admitted to the bar in 1874, and began to practise in Los Angeles County. In 1882 he was elected district attorney on the Democratic ticket. In 1884, and again in 1886, he was chairman of the Democratic State Convention. In 1886 he was elected to the State Senate. In 1888, on the death of Gov. Bartlett, he discharged the functions of Lieutenant-Governor. In 1890 he was an unsuccessful candidate for the United States senatorship, but in 1893 was elected to that office.

Wigger, Winand Michael, clergyman, born in New York city, Dec. 12, 1841; died in South Orange, N. J., Jan. 5, 1901. He was educated for the priesthood at St. Francis Xavier College, New York city, and at Seton Hall College, South Orange, N. J., where minor orders were conferred upon him, in December, 1861. In 1862 he went to Genoa, Italy, where he finished his theological course in the College of Brignoli Sali. In 1865 he was ordained a priest. He returned to the United States and was appointed an assistant priest at St. Patrick's Cathedral, Newark, N. J.; later he was stationed for short periods at St. John's Church, Orange, St. Vincent's Church,

Madison, and the church at Milburn. In July, 1881, he was appointed Bishop of Newark. He received the degree of D. D. from the College of Brignoli Sali in 1865.

Wildman, Rounseville, journalist, born in Batavia, N. Y., March 19, 1864; died in the Pacific Ocean, near California, Feb. 22, 1901. He was graduated at Syracuse University, and became editor of the *Idaho Statesman* at Boise City. Later he was sent to Congress as Territorial Delegate, and it was largely due to his efforts that Idaho was admitted to statehood. In 1889 he was appointed consul-general at Singapore; he served three years, and was transferred to Bremen. When he returned to the United States he devoted himself to magazine work, and was for a time editor of the *Overland Monthly*. In May, 1898, he was appointed consul-general at Hong-Kong, and he was prominently before the public in connection with the war in the Philippine Islands. He was on leave of absence and on his way home on the steamer *City of Rio Janeiro*, when the ship struck on a reef and he was among those who were drowned.

Williams, Alonzo, educator, born in Foster, R. I., Sept. 14, 1842; died in Providence, R. I., March 16, 1901. He worked in cotton-mills in his youth and served for a time in the army during the civil war. He was graduated at Brown University in 1870, became a professor there, and from 1892 was at the head of the Germanic seminar. He was the author of technical works and lectures bearing upon the modern languages.

Williams, Robert, soldier, born in Culpeper County, Virginia, Nov. 5, 1829; died in Plainfield, N. J., Aug. 24, 1901. He was graduated at West Point, and entered the service as brevet 2d lieutenant of the 1st Dragoons, July 1, 1851; promoted 2d lieutenant, July 15, 1853; 1st lieutenant, June 7, 1855. He was made assistant adjutant-general, with the rank of brevet captain, May 11, 1861; promoted captain, Aug. 3, 1861; lieutenant-colonel, Feb. 22, 1869; colonel, July 1, 1881; and appointed adjutant-general, with the rank of brigadier-general, July 5, 1892; he was retired Nov. 5, 1893. In the volunteer service in the civil war he was commissioned colonel of the 1st Massachusetts Cavalry, Oct. 7, 1861; promoted major, July 17, 1862; and resigned, Oct. 1, 1862. He took part in the battle of Antietam and was brevetted lieutenant-colonel, Sept. 24, 1864; colonel and brigadier-general, March 13, 1865, for diligent, faithful, and meritorious service in the department of the adjutant-general during the war.

Williams, Stephen Robbins, philanthropist, born in Amityville, N. Y., Sept. 25, 1832; died there, Jan. 30, 1901. For several years he was superintendent of the poor of Suffolk County, and in 1887 he founded the Brunswick Home for Invalids. He also incorporated a similar institution at Westport, Conn.

Wilson, Thomas, soldier, born in Washington, D. C., June 10, 1832; died in New York city, May 30, 1901. He was graduated at West Point in 1853, and assigned to the 6th Infantry as brevet 2d lieutenant; promoted 2d lieutenant 5th Infantry, Oct. 26, 1854; 1st lieutenant, April 1, 1857; commissary of subsistence, with rank of captain, Oct. 25, 1861; lieutenant-colonel, Dec. 26, 1863; major, May 20, 1882; made assistant commissary-general of subsistence, with the rank of lieutenant-colonel, Aug. 1, 1892; promoted colonel, June 1, 1896; and retired, June 10, 1896. Before the civil war he was on frontier duty in Texas and also engaged against the Seminole Indians in Florida. He was present at the battle of Antietam, and was chief of commissariat of

the Army of the Potomac during the operations against Richmond. He was brevetted colonel of volunteers Aug. 1, 1864, and brigadier-general of volunteers March 13, 1865, for faithful and meritorious service. After the war he served as depot commissary at Baltimore till 1872, at Omaha and other places in the West till Nov. 8, 1887, when he became purchasing and department commissary at Chicago.

Withers, Frederick Clarke, architect, born in Shepton Mallet, England, Feb. 4, 1828; died in Yonkers, N. Y., Jan. 7, 1901. He studied architecture in London and other places eight years. In 1852 he began to practise his profession in Newburg, N. Y. At the outbreak of the civil war he joined the National army as 1st lieutenant, New York Engineers; he was injured in the service in 1862 and returned to New York city, where he resumed the practise of architecture. Among the buildings designed by him are the Jefferson Market Court-House, New York city; the Hudson River State Hospital, Poughkeepsie; the Deaf-Mute College, Washington; and the New York City Asylum for the Insane, in Central Islip, Long Island. He published *Church Architecture* (1874).

Woods, Eliza, educator, born in Belfast, Ireland, about 1850; died in New York city, March 8, 1901. She was brought to the United States by her parents, and received her education in the public schools of New York city and in the Saturday normal classes. When the Normal College of the City of New York was founded, in 1870, Miss Woods was chosen to be the first assistant in the department of mathematics. Later she was transferred to the department of psychology. Upon the death of Miss Lydia T. Wadleigh, in 1888, she was appointed woman superintendent, and she held that place, also occupying the chair of Ethics, till her death.

Woods, William Allan, jurist, born in Marshall County, Tennessee, May 16, 1837; died in Indianapolis, Ind., June 28, 1901. He was graduated at Wabash College in 1855, and in 1860 removed to Marion, Ind., where he studied law and was admitted to the bar in 1861. He began the practise of his profession in Goshen, Ind., in 1862. In 1866 he was elected to the Legislature. In 1873 he was elected judge of the 34th judicial circuit, and he served by reelection till 1881, when he was elected judge of the State Supreme Court; subsequently he was made Chief Justice. In 1883 he was appointed United States district judge for the district of Indiana, and removed to Indianapolis. In 1892 he was reappointed judge, and was confirmed by a bare majority of the Senate. He issued the injunction against interference with the mails by railroad strikers in 1894, and sentenced Eugene V. Debs and other officers of the American Railway Union to prison for violating the injunction.

Woolf, Benjamin E., playwright, musician, and dramatic critic, born in London, England, in 1836; died in Boston, Mass., Feb. 7, 1901. He came to America in early youth, and in 1856 became the first violinist in the Boston Museum orchestra. After a time he took up the work of a playwright, and wrote altogether more than a hundred plays and librettos, his most successful dramatic work being *The Mighty Dollar*, in which the late William J. Florence acted for many years. His most important musical work was the comic opera *Westward Ho*. Mr. Woolf was director of music in many of the leading theaters of the country at different times during his career. In 1871 he became dramatic critic for the Boston *Saturday Evening Gazette*, holding that place un-

till 1893, when he left the *Gazette* to occupy a similar place on the staff of the *Boston Herald*. During his long experience as a critic of music and the drama he won considerable distinction by reason of his frank, intelligent criticism, always expressed with justice and clearness, and often brightened with flashes of keen wit. In 1867 he married Josephine Orton, of the Boston Museum stock company.

Wright, Elias, civil engineer, born in Durham, N. Y., June 22, 1830; died in Atlantic City, N. J., Jan. 2, 1901. He was educated in a district school, of which he subsequently became the teacher. He removed to Atlantic City in 1852, where he taught for several years. He then studied civil engineering. In the civil war he was commissioned 2d lieutenant in the 4th New Jersey Infantry, Aug. 17, 1861; he was promoted 1st lieutenant Jan. 3, 1862; captain, December, 1862; major, June, 1863; lieutenant-colonel, April, 1864; colonel, August, 1864; and brevetted brigadier-general of volunteers in January, 1865. He took part in all the battles in which his regiment was engaged, but at the battle of Gaines Mill, June 27, 1862, was captured and confined in Libby Prison seven weeks. After the war he returned to civil engineering at Weymouth and Atlantic City, N. J.

Xavier, Henry, horticulturist, born near Lyons, France, March 26, 1826; died in Mount Vernon, N. Y., June 19, 1901. He came to the United States when young, and for a time was in business in Fort Hamilton, N. Y.; in 1853 he removed to Mount Vernon. He made many trips to Europe in connection with the introduction of wine-producing grape-vines into this country. He brought practically every known species from Italy, France, Spain, Germany, and Hungary.

Yeatman, James Erwin, philanthropist, born in Bedford County, Tennessee, Aug. 23, 1818; died in St. Louis, Mo., July 7, 1901. He removed to St. Louis in 1842, and was the owner of an iron-foundry there for many years. During the civil war he was a Union sympathizer, and was one of a commission sent to Washington to explain the status of local affairs to President Lincoln. In 1864 he was appointed president of the Western Sanitary Commission, which established hospital steamers, soldiers' homes, and relief bureaus. Although a slaveholder before the war, he devised the organization of the Freedmen's Bureau, and made an official report to Washington in which he advised the leasing of abandoned cotton plantations to the freedmen. After the war he engaged in the banking business, and was president of the Merchants' National Bank for several years. He was identified with numerous charitable movements.

Younmans, William Jay, author and journalist, born in Milton, Saratoga County, N. Y., Oct. 14, 1838; died in Mount Vernon, N. Y., April 10, 1901. He spent his early years on his father's farm, going to the district school and studying chemistry and other scientific subjects under the direction of his brother, Prof. Edward L. Youmans. He next attended the Fort Edward Academy, and in 1858 went to New York city, where he took a special course in chemistry at Columbia College under Prof. Joy, subsequently going to the Sheffield Scientific School, New Haven, where he studied physiology and chemistry. He was graduated in the medical department of the New York University in 1865. He then spent a year abroad, devoting most of his time to special scientific work under the direction of Prof. Huxley. He settled in Winona, Minn., where he began the practise of medicine. In 1871 his brother planned the *Popular Science Monthly*, and Dr.

Youmans was soon called to help him. The first number of the magazine was issued in May, 1872, and from that time until a year before his death Dr. Youmans was actively associated with its management. After his brother's death, in 1887, and indeed for several years previously, owing to the latter's feeble health, the entire editorial work was in his charge. His chief literary work was done in connection with this magazine, which for many years was the leading exponent of the evolution philosophy of Herbert Spencer, and at the time of its establishment was practically the only periodical in America which would print evolutionary material. It did an important work in popularizing this and other scientific theories, and was undoubtedly a powerful factor in bringing about the present educational awakening regarding the importance of scientific education. He collaborated with Prof. Huxley in the preparation of the latter's *Physiology for the American edition*, edited a volume of biographies under the title *Pioneers of Science in America*, and had been a regular contributor of scientific articles to this *Cyclopædia* for many years. He was a fellow of the American Association for the Advancement of Science, and of the New York Academy of Science, as well as a member of many of the other scientific bodies of the country. He will be remembered by his friends and associates for his devotion to the cause of scientific education, his outspoken hatred of shams of every kind, and his unflinching faithfulness to his ideals of scientific as well as practical morality.

Young, Harvey B., artist, born in Vermont in 1840; died in Colorado Springs, Col., May 4, 1901. At nineteen years of age he combined prospecting, mining, and sketching in California, Nevada, Oregon, and Colorado. In 1879 he settled in Manitou, later he removed to Denver, and finally to Colorado Springs. He made several trips to Europe, and studied art in Munich, and in Paris under Carolus Duran. In the Salon of 1878 he exhibited *Spring and The Environs of Grez*. His other works include *La Sal*, which hangs in the Perkins Fine Arts Hall, Colorado College; *The Miner's Friend*; *A Mexican Home*; *Ogden Mountain, Utah*; *Lake George, Colorado*; *Pappago Village*; and *Salt Lake Valley*.

Zeller, Theodore, naval officer, born in New York city, Dec. 1, 1823; died there, June 30, 1901. He was appointed to the navy as third assistant engineer, June 15, 1843; promoted second assistant engineer, July 10, 1847; first assistant engineer, Feb. 26, 1851; chief engineer, June 27, 1855; and retired, Dec. 1, 1885. He served on the frigate *Missouri*, which was burned at Gibraltar, Sept. 26, 1843, and on the steamship *Col. Harney* in the Gulf of Mexico. During the war with Mexico he served on the steamships *Union* and *Iris*. In 1849 he was sent to the Pacific Ocean to join the *Massachusetts*, which was detailed

with a commission of army and navy officers to select a site for a navy-yard in California. In 1861 he was ordered to New York city to super-



intend the building of machinery for gunboats. In May, 1863, he was appointed fleet engineer of the Eastern Gulf squadron, and he remained on the staff of Rear-Admiral Theodorus Bailey till September, 1864. After the war he was stationed in New York and Philadelphia till 1874. In 1875 he was sent to Europe to examine dock-yards, and in 1877 became a member of the experimental board to examine improvements in machinery. He was president of the board in 1884. In 1885 he was retired with the rank of commodore.

OBITUARIES, FOREIGN. Abbott, Evelyn, English scholar, born in 1843; died in Malvern, England, Sept. 3, 1901. He was educated at Oxford, and gained a fellowship. Soon after he took his degree paralysis of the lower limbs rendered him an incurable invalid. He was, however, active in his duties as college tutor, and was greatly beloved by his pupils. He mingled freely in the social and educational life of his college, being wheeled on a couch to lecture-room or dinner-party, and bore his great trial with cheerful dignity. Besides translating from the German Duncker's *History of Antiquity* (1877-'82), as well as classical works for the use of students of Greek, he edited the *Hellenica* (1880), a collection of essays on classical subjects by modern scholars, and was the author of *History of Greece* (1882-1900); *A Skeleton Outline of Greek History* (1885); *Pericles and the Golden*

Age of Athens (1891); and Life and Letters of Benjamin Jowett, with L. Campbell (1897).

Abdurrahman Khan, Ameer of Afghanistan, born in Cabul in 1844; died there, Oct. 3, 1901. He was the eldest son of Afzul Khan, who was the eldest but not the noblest born of the sons of Dost Mohammed, whom the British restored in 1842, after having deposed him in 1840. When Dost Mohammed died, in 1863, he nominated as his successor Shere Ali, a younger son, who confirmed Abdurrahman in a post to which his grandfather had appointed him in Afghan Turkestan, he having married a daughter of the Khan of Badakshan and possessing much influence among the Uzbeks. Hence he was able to supply his father and Uncle Azim with the major part of the fighting force with which they drove out Shere Ali, compelling him to flee to his son Yakub at Herat. Afzul mounted the throne at Cabul, and when he died Azim was proclaimed his successor, in which step Abdurrahman acquiesced, but not his followers. Shere Ali returned from Herat with an army which Yakub Khan led to victory, driving Azim out to perish in the desert and Abdurrahman to take refuge in Bokhara and afterward with the Russians in Samarcand. He was an active, ambitious, energetic prince, who had neglected books in his youth for sport, but was interested in arms and warlike exercises and learned to be a shrewd and bold but cautious politician. While Shere Ali lived Abdurrahman remained quiet and unobserved, a Russian pensioner in Samarcand. His time came after his uncle and rival died, in 1879, at Balkh, where he was waiting for aid promised by the Russians. Abdurrahman was a poor general, and had little chance against the organized forces of Yakub Khan, who had thoroughly outmaneuvered him in the campaign of 1867. The murder of Sir Louis Cavagnari, the English envoy at Cabul, in the fall of 1879, resulted in the occupation of the capital by a British army and the flight of the Ameer Yakub Khan. Abdurrahman then raised a little army with Russian assistance and crossed the Oxus in the beginning of 1880. The Beaconsfield Government in England wished to retain Candahar as a British post and to control Afghanistan after the evacuation of Cabul by dividing the country among the chiefs. The defeat of the ministry was the defeat of the forward policy, and the object of the Liberal Administration that succeeded was to end the costly and perilous occupation of Afghanistan and the crisis in the relations with Russia by scuttling as rapidly as possible back to the Himalayan passes, retaining Baluchistan, but no part of the Afghan territory. Lord Lytton, the Viceroy of India, had already opened negotiations with Abdurrahman with the view of making him lord in the north, where the population seemed favorably disposed toward him. Sir Lepel Griffin, who was political agent with the British forces, was now instructed to negotiate on the basis of his being recognized as Ameer of Cabul. He accordingly crossed the Hindu Kush and established his camp within a short distance of Cabul, and when disaster overtook the British force at Maiwand, in July, he rendered assistance to Lord Roberts in facilitating the withdrawal of the British detachments to Candahar. Before Sir Donald Stewart retired with the main body Sir Lepel Griffin formally recognized Abdurrahman as Ameer of the whole of Afghanistan, and the Indian Government furnished him with money, arms, and ammunition to enable him to assert and maintain his authority. Ayub Khan, his most formidable rival, had already been crushed by Lord Roberts at Canda-

har. At Cabul and Ghuzni the powerful Yakubzai faction, led by Mohammed Jan, contested the throne on behalf of Yakub Khan's son, Mussa Khan. The great Ghilzai tribes were strongly opposed to him. There was indeed no section of the Afghan nation well affected toward the *protégé* of the British. He had a long and a hard contest before he was established in authority, and he used every treacherous and cruel means to get his enemies into his power and strike terror into the restless and turbulent Afghan tribes. Gen. Mohammed Jan was perfidiously seized and thrown into a dungeon, from which he never emerged, and one after the other all the leaders of hostile factions and even friends who grew too powerful were in similar fashion put out of the way. He had to defend himself against the Ghilzai tribes, and did not succeed in reducing them to subjection until ten years had passed. Ayub Khan attempted in 1881 to recapture Candahar, but his weak force was easily beaten by Abdurrahman, who subsequently captured Herat, and was then the nominal ruler of all the Afghan provinces, but he had to subjugate some of them again and again and crush out opposition with ruthless severity before his rule was undisputed. In the end he organized and governed his kingdom with more authority than any of his predecessors possessed in recent times. The instrument of his power was the trained and disciplined army using modern weapons which the gifts of arms from the Indian Government and the subsidy of £120,000 a year allowed from 1883, and increased later to £180,000, enabled him to create and maintain. After the occupation of Merv by the Russians, in 1884, he allowed the British Government to arrange with Russia a delimitation of his northern borders, which on the upper Oxus were finally demarcated after a long dispute over the treaty in 1895. In the south he had no powerful ally to guard his interests, and was engaged in constant disputes with the British, who, whenever Russia displayed any military or railroad activity in Turkestan, pressed forward to some supposed point of vantage for the defense of the numerous little passes in the mountains. This obliged him to develop considerable military power in these regions among the tribes, but he never came into open conflict with the British. Ishak Khan, who had joined him in his original invasion of Afghanistan and was rewarded with the governorship of the province of Afghan Turkestan, laid plans to oust his cousin. Abdurrahman, in his usual way, when he heard of this intrigue, invited Ishak to pay him a visit in Cabul. Ishak preferred an open fight to being poisoned at table or stabbed in prison, and hastened his preparations for defense while Abdurrahman with his army marched with the utmost speed through the passes of the Hindu Kush. Notwithstanding the enormous superiority of his force in number and quality, the Ameer, through faulty tactics, almost lost the battle when the two bodies met. The victory, though narrowly won, was complete, however; but he deemed it necessary to remain two years in Turkestan, leaving his son Habibullah to rule in his stead at Cabul. Returning in 1890, he sent his troops into the south to counteract British encroachments. This involved him in a serious dispute with England, and when it was proposed that he should go to India or that Lord Roberts should go to Cabul to talk about a settlement, he declined both propositions. Sir Mortimer Durand finally arranged and carried out a compromise which gave Kafiristan to the Ameer and Chitral and the passes of the Kunar valley to Great Britain. On receiving the order of the

Bath in 1895 he sent his son Nasrullah Khan to England to arrange for a permanent diplomatic representation of Afghanistan by an accredited agent in London, but to this the British Government would not accede. His eldest son, Habibullah Khan, whom he chose to succeed him, he trained in high military commands and in judicial and executive offices and the management of the treasury to continue his iron rule over an undivided Afghanistan by means of his powerful army equipped with modern weapons. Besides the allowance from the Indian Government, Abdurrahman established monopolies and collected taxes such as no ameer of Cabul had ventured to impose before, and the revenue he spent mainly in improving the army, buying munitions, building arsenals, and establishing manufacturing establishments at Cabul, which in turn produce revenue. He also sought to make the nation strong by improving the condition of the people and introducing civilized arts. He made roads, extended irrigation, promoted agriculture, and encouraged suitable industries. His attention to all details of government was systematic and assiduous despite poor health. He was a man of lofty stature, and in his prime he had enormous strength and vitality. Later he became corpulent, and his strength was undermined by chronic disease. His score of well-armed regiments are formidable for the defense of Afghanistan on either frontier. The British, who originally lent him the means to consolidate his power, were under no illusion as to his subservience or that of the Afghans under any ruler to any policy of theirs that did not coincide with the interests and was not based on the independence of Afghanistan. Habibullah Khan, who succeeded his father without having to encounter the usual opposition, is a man of twenty-eight years, pleasing in person and manners, and has the name of being capable. (See portrait on page 4.)

Arthur, William, English clergyman, born in Kells, Ireland, Feb. 3, 1819; died in Cannes, France, March 9, 1901. At the age of sixteen he began preaching as a Wesleyan Methodist, and a year later he entered Hoxton Theological College, near London. At twenty-one he went as a missionary to southern India, returning three years later. His experiences during this period are narrated in his *A History of the Mysore* (1847). He also published *The Successful Merchant* (1852); *The Tongue of Fire* (1856); *Addresses in New York* (1856); *Italy in Transition* (1860; sixth edition, 1877); *The Modern Jove* (1873); *The Pope, the Kings, and the People* (1877); *On the Difference between the Physical and the Moral Law* (1883); *Religion without God: Part I, Positivism and Mr. Frederic Harrison; Part II, Agnosticism and Mr. Herbert Spencer* (1884); *The People's Day* (1885); *God without Religion: Deism and Sir James Stephen* (1887).

Audran, Edmond, a French composer, born in Lyons, April 11, 1842; died in August, 1901. He was educated at the École Niedermeyer in Lyons and began his professional career as organist of the Church of St. Joseph, at Marseilles. He was a prolific composer of marches, overtures, masses, etc., but his reputation is mainly founded upon the many light operas of which he was the author. He removed to Paris in 1861, and after that date produced an oratorio, *La Sulamite* (1876), and the following operas and operettas: *L'Ours et le Pasha* (1862); *La Chercheuse d'esprit* (1864); *La Nivernoise* (1866); *Le Petit Poucet* (1868); *Les Noces d'Olivette* (1879); *La Mascotte* (1881); *Les Pommes d'Or* (1883); *Le*

Grand Mogol (1884); *La Dormeuse Éveillée* (1885); *Pervenche* (1885); *Le Paradis de Mahomet* (1887); *Gillette d'Narbonne* (1890); *Miss Helyett* (1890); *La Cigale*; and *La Poupée*. Audran's music is well known to English and American frequenters of the opera. It is thoroughly popular in cast and excellent of its kind. A rippling, sparkling gaiety is characteristic of all his operas.

Baden-Powell, Baden Henry, a British Indian jurist, born in Oxford in 1841; died there, Jan. 2, 1901. He was the eldest son of an Oxford professor and a half-brother of Gen. Baden-Powell of South African fame. He received his education at St. Paul's School, London, entered the Bengal civil service at the age of twenty, and retired in 1889 as chief judge of the Punjab. He gave attention to Indian forestry, and he cooperated with Dr. Leitner in the establishment of the Oriental University at Lahore. The principal subject of his studies was land tenures in India, and his important works are *Land Systems of British India* and *The Indian Village Community*.

Bagshawe, John Bernard, an English clergyman, died in Brighton, England, Oct. 30, 1901. He was ordained to the Roman Catholic priesthood in 1851, and after serving two years as chaplain in the English army during the Crimean War was rector of St. Elizabeth's Church, in Richmond, Surrey, for the forty-four years preceding his death. His more important works include *The Threshold of the Catholic Church* (1873); *The Catechism Illustrated by Passages from Holy Scripture* (1879); *The Credentials of the Catholic Church* (1879); *Catholic Sermons* (1881); and *The Treasure of the Church*.

Balaguer, Victor, a Spanish poet, born in 1825; died in Madrid, Jan. 14, 1901. He was a native of Catalonia, and endeavored to revive the flower games, the picturesque Limousinian speech, and the spirit of the troubadours. Faith, love, and country furnished the burden of his songs. His collected works make 33 volumes. The drama *Don Juan de Serrallonga* he wrote in his youth. Under the designation of *Tragedies* he pictured a series of historical episodes. His *History of the Troubadours* gained for him a seat in the Historical Academy, and his works in belles-lettres his election to the Spanish Academy. He was an earnest political thinker, who believed in a strong, undivided Spain, to which some of his poems were consecrated, while others celebrated the special glories of his narrower Catalonian land. After the victory of the September revolution of 1868 he was appointed vice-president of the revolutionary committee in Barcelona, and henceforth was elected a Deputy many times, mostly by the city of Villanueva y Geltru, to which in gratitude he gave a library and museum, devoting to the foundation the major part of his fortune. He filled many important administrative posts. When Amadeus was king he was several times Minister of Education and Ecclesiastical Affairs and Colonial Minister in the Cabinets of the Duke de la Torre and Sagasta. In 1889 he was nominated a Senator for life.

Baratieri, Oreste, an Italian soldier, born in Condino in the Austrian Tyrol, Nov. 13, 1841; died in Sterzing, in the same province, Aug. 8, 1901. When Garibaldi raised the flag of insurrection in 1859 he joined the thousand at Marsala, and made the march into Sicily. In 1866 he fought again under Garibaldi in the Tyrol, and then entered the Italian army. In 1887 he went to Eritrea in the San Marzano expedition as colonel of *bersaglieri*. He officiated as Governor of Eritrea for a few months in 1891, and

then returned to Italy, where with Count Salimbeni he drew up the code of regulations for the colony which were entrusted to him to put into operation in the following year. He entered on his duties as civil governor on March 30, 1892, and his administration was so successful that after his report was received, in November, 1893, he was proposed for Minister of Foreign Affairs in the Cabinet that Zanardelli undertook to form in 1894, and was only excluded because it was not thought wise, out of consideration to Austria, to appoint an Irredentist of Austrian birth. He achieved important military successes both against the dervishes and against the Abyssinians, occupying Kassala on July 17, 1894, and twice defeating Ras Mangascia in January, 1895. For these services he was promoted lieutenant-general. In March, 1896, he occupied Adigrat, penetrated Tigre, and in October of that year won a battle at Debra Ailat, took possession of Makalle and Amba Alagi, and occupied the whole of that Abyssinian province. His forces were scattered far from their base, and the Shoa army of the Negus Menelek threatened his flanks. He marched from Massowah with reinforcements, formed a junction with Arimondi's beaten troops, and then sat down. In December, 1895, Major Toselli's detachment was beaten at Amba Alagi, and in January, 1896, Makalle had to capitulate. The Government then decided to supersede Gen. Baratieri, but the order was to be kept secret until Gen. Baldissera arrived to take command. He is believed to have learned or to have divined what was impending. At any rate, after a long period of inactivity, he advanced his army by quick marches through a rugged country, intending to strike a decisive blow before his successor could arrive. The three columns could not keep in touch. On March 1 he came upon King Menelek's main army encamped before Adowa, and decided to attack at once, expecting to win the day by surprise and sudden dash. The result was disastrous. The Abyssinians took up the attack, surrounded the Italians, and at the end of the fight 250 officers and 7,000 men were killed, wounded, or prisoners in the hands of the enemy. Gen. Baratieri's military career was ended, and Italy's ambitious colonial dream gave place to bitter disappointment and dismay. He was acquitted by a court-martial, but retired in August, 1896, broken in health from his African experiences. In 1897 he published a book entitled *Memorie d'Africa*, explaining and defending his actions.

Barbier, Paul Jules, a French dramatist, born in Paris, March 8, 1825; died in January, 1901. He produced his first play, *L'Ombre de Molière*, at the Comédie Française in January, 1847. This was followed the next April by *Un Poète*, a five-act drama in verse. Later plays of Barbier's are *Amour et Bergerie* (1848); *André Chénier* (1849); *Bon gré, Mal gré* (1849); *Les Amoureux sans le Savoir* (1850); *Graziella* (1849); *Un Drame de Famille* (1849); *Jenny l'Ouvrière* (1850); *Les Derniers Adieux* (1851); *Les Contes d'Hoffmann* (1851); *Les Marionnettes du Docteur* (1852); *Le Mémorial de Sainte-Hélène* (1852); *Le Maître de la Maison* (1866); *Cora, ou l'Esclavage* (1866); *La Loterie du Mariage* (1866); *Maxwel* (1867). In collaboration with Carré, Labiche, and others he produced many dramas for the Parisian theaters, and he supplied the librettos of such well-known operas as *Les Noces de Figaro*, *Le Pardon de Ploërmel*, *Gounod's Faust*, *Mignon*, *Les Joyeuses Commères de Windsor*, and others. He also wrote several volumes of verse: *Le Franc-tireur*; *Chants de*

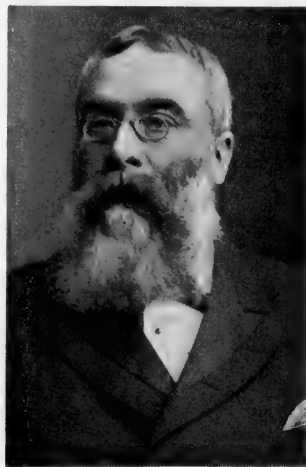
Guerre (1871); *The Sheaf* (1882); *Plays in Verse* (1879); *Faded Flowers* (1890).

Bennett, Alexander Hughes, a Scottish physician, born in 1847; died in London, Nov. 1, 1901. He was the son of an Edinburgh professor, and obtained his education in Edinburgh, London, and Paris. He was admitted to the Royal College of Physicians in London in 1871, his specialty being the treatment of epilepsy and paralysis, upon which subjects he had written much. For many years he had been head physician in the Regent's Park Epileptic Hospital, in London. His published works include *Practical Treatise on Electro-Diagnosis in Diseases of the Nervous System* (1882); *Illustrations of the Superficial Nerves and Muscles, with their Motor Points*; *A Statistical Inquiry into the Nature and Treatment of Epilepsy* (1884); *Spastic Paralysis*; *Muscular Hypertonicity in Paralysis*; and *An Experimental Inquiry into the Physiological Actions of Theine*.

Benoît, Pierre, a Belgian composer, born in Harlebeke, Aug. 17, 1834; died in Antwerp, March 18, 1901. He won the Roman prize at the Brussels Conservatory in 1857, became director of an orchestra in Paris in 1861, composed religious and chamber music, and, under the influence of the Flemish literary movement, founded a Flemish school of music which was exemplified in oratorios and cantatas entitled *Lucifer*, *De Schelde*, *Oorlog*, *Le Rhin*, *Onze Vader*, and *Rubens*, and the operas *Charlotte Corday* and *Karel van Gelderland*. He was director of the School of Music at Antwerp from 1867.

Besant, Sir Walter, an English novelist, born at Portsmouth, England, Aug. 14, 1836; died in London, June 9, 1901. He was educated at King's College, London, and Christ's College, Cambridge, and from 1861 to 1867 was a professor in the Royal College on the island of Mauritius. On his return to London he formed a literary partnership with James Rice (1844-'82). The most popular of their collaborations is *The Golden Butterfly*. It seems probable that the lighter and more amusing portions of their fictions were the work of Rice, and it is not unlikely that the motive was Rice's also.

Taking Besant's known work into consideration, it does not entitle him to a place within the first, or even the second class of novelists, although it has many merits and is always entertaining. Besant did not take himself with undue seriousness, however, and the establishment of the People's Palace in 1886, an enterprise directly traceable to the Palace of Delight outlined in his *All Sorts and Conditions of Men*, presumably afforded him more satisfaction than contemplation of his literary popularity. He esteemed Dorothy Forster his best novel, but among the most popular appear to have been *All Sorts and Conditions of Men* and *Children of Gibeon*. He was a stanch, if not invariably a wise, champion



of the claims of authors to fair treatment from their publishers, and devoted an immense amount of time and thought to the work of the Society of Authors, an organization of which he was chairman in 1887-92. He had also been secretary of the Palestine Exploration Fund from 1868. In 1896 he was knighted. With Edward H. Palmer, Besant wrote *Jerusalem, the City of Herod and Saladin* (1871), and with Walter H. Pollock *The Charm and Other Drawing-room Plays* (1898). A list of the works written by Besant and Rice includes *Ready Money Mortiboy* (1871); *My Little Girl* (1873); *This Son of Vulcan* (1876); *The Golden Butterfly* (1876); *The Case of Mr. Lucraft, and Other Tales* (1876); *With Harp and Crown* (1877); *The Monks of Thelema* (1878); *By Celia's Arbor* (1878); *'Twas in Trafalgar's Bay* (1879); *The Seamy Side* (1880); *Sir Richard Whittington, Lord Mayor of London* (1881); *The Ten Years' Tenant, and Other Stories* (1881); and *The Chaplain of the Fleet* (1881). The various books of which Besant was sole author comprise *Studies in Early French Poetry* (1868); *When George the Third was King* (1872); *The French Humorists from the Twelfth to the Nineteenth Century* (1873); *Book of French* (1877); *Gaspard de Coligny* (1879); *Rabelais, for Classics Series* (1879); *The Revolt of Man* (1882); *All Sorts and Conditions of Men* (1882); *Readings in Rabelais* (1883); *All in a Garden Fair* (1883); *Life and Achievements of Edward H. Palmer* (1883); *The Captain's Room* (1883); *The Art of Fiction, a lecture* (1884); *Dorothy Forster* (1884); *Uncle Jack* (1885); *Children of Gibeon* (1886); *To Call Her Mine* (1886); *Katherine Regina* (1887); *The World Went very Well Then* (1887); *The Holy Rose* (1887); *The Eulogy of Richard Jefferies* (1888); *Fifty Years Ago* (1888); *Herr Paulus* (1888); *The Inner House* (1888); *For Faith and Freedom* (1888); *The Bell of Saint Paul's* (1889); *The Lament of Dives* (1889); *Captain Cook* (1890); *Armored of Lyonesse* (1890); *The Demoniac* (1890); *The Chaplain's Secret* (1891); *Saint Katherine's by the Tower* (1891); *The Ivory Gate* (1892); *London* (1892); *Verbena Camellia Stephanotis, and Other Stories* (1892); *Dorothy Wallis* (1892); *The Rebel Queen* (1893); *History of London, abridged* (1893); *Beyond the Dreams of Avarice* (1895); *In Deacon's Orders, and Other Stories* (1895); *Westminster* (1895); *The City of Refuge* (1896); *Master Craftsman* (1896); *The Rise of the Empire* (1897); *A Fountain Sealed* (1897); *The Queen's Reign* (1897); *The Changeling* (1898); *The Pen and the Book* (1898); *South London* (1898); *The Orange Girl* (1899); *The Alabaster Box* (1900); *The Fourth Generation* (1900); *East London* (1901); *The Lady of Lynn* (1901); *The Way Out* (1901); *The Story of King Alfred* (1901).

Bhopal, Shah Jehan, Begum of, born in 1838; died June 16, 1901. Her mother, Sikandar Begum, resisted the efforts of her advisers in 1857 to induce her to join the Indian mutiny, instead of which she sheltered at great risk the English officers fleeing from Indore. The daughter succeeded to the throne in 1868. Her second husband, Sirdar Mohammed Sadik Hussein, while she was in retirement, mismanaged the state and was deprived of power about 1882 by the Indian Government, which sent Col. Ward to conduct the administration and the finances. Her own rule had been firm and just, and since that period the state has made great progress with native ministers. She was fond of Europeans, and was noted for liberality and benevolence as well as for administrative qualities. Her daughter and

successor, the Nawab Sultan Jehan, born in 1867, is the third consecutive female ruler of Bhopal.

Bismarck, Count Wilhelm, a Prussian administrator, born in Frankfurt-on-the-Main in 1852; died in Varzin, May 30, 1901. He was the younger son of Prince Bismarck. He studied at Bonn, entered the dragoon regiment of the guards as a one-year volunteer, went to the front in 1870, and with his brother took part in the charge at Mars la Tour, winning a lieutenancy. In 1873 he was attached as a civilian to the staff of Gen. von Manteuffel, Statthalter of the Reichsland of Alsace-Lorraine, and at the same time was elected member of the Reichstag for Mühlhausen, Thuringia, which he represented till 1881, after which he represented Schlaw Rummelsberg in the Prussian Chamber till 1885, rising meanwhile in the administration to be subpresident of the province of Hanover. When his father was dismissed he did not, like his brother Herbert, who was in the political service, quit office, and in a short time he was advanced to be chief president of East Prussia. He held this office till his death, and in quarrels with the municipality of Königsberg his conduct was considered arbitrary, although his character was genial like that of his father, to whom he bore a striking likeness. From his father he inherited the estate of Varzin.

Block, Maurice, a French statistician, born in Berlin, Prussia, Feb. 16, 1816; died in Paris, Jan. 15, 1901. He lived in Paris from the age of five years, became a naturalized Frenchman, entered the Bureau of Statistics of the Department of Agriculture and Commerce, became assistant superintendent of the bureau, left the public service to write for French and foreign periodicals, won the Montyon prize for statistics in 1861, published a great number of articles and studies on statistical and economical subjects, and was elected to the Academy of Moral and Political Sciences as successor to Léonce de Lavergne.

Böcklin, Arnold, a Swiss painter, born in Basel, Oct. 16, 1827; died in Fiesole, Tuscany, Jan. 23, 1901. He was a silk-merchant's son, and was driven out by his relatives when they could not break his resolution to become an artist. He was the pupil first of the romantic Düsseldorf painter Schirmer, from whose methods as a colorist he gradually departed until no trace of his master's influence can be discerned in his ripper works. He had received a good education in the gymnasium when he arrived without a heller in Düsseldorf, whence he wandered, penniless still, first to Antwerp, then to Paris, and when the terrors of the revolution and his extreme poverty drove him from there to Rome at last, where his characteristic style unfolded. Neither classic nor Renaissance examples attracted him, but the landscape under the Italian sky, as seen in the country around Rome; and then the pagan mysteries of the ancient world began to work upon his romantic spirit. He put figures in his landscapes, not classic in conception but transformed by German fancy and humor into singular grotesque shapes. Needy as ever, simple and ignorant of the world, careless and light-hearted as a child, he astonished his brother artists who commiserated his eccentricity and his lack of worldly wisdom and of worldly goods by his brilliant flashes of thought and imagination, his philosophical reflections, and the extent of his learning. He took a beautiful wife to share his wretched state. Lenbach and Heyse, recognizing his high artistic gifts, induced him to go to Munich, where Count Schack became interested in him, and the few who believed in his

original genius encouraged him to fare forth on his lonely way, producing works that made the general public laugh. His Roman sketches and memories were metamorphosed in his imagination into an unending series of dream pictures. He produced enormously, struggling with colors, not in the way of the modern painters but like an alchemist delving in ancient lore, growing into a colorist whose power and technique were recognized even by many to whom his paintings repelled as fantastic images of a lunatic brain. Wagner, when the world scorned and ridiculed his art, took up the cudgels in its defense, but Böcklin was a shy and lonely soul, who had no answer to make to ridicule and contempt. An easier life as professor in the Weimar Academy enabled him to develop his powers to maturity. He did not stay long there, but took up his final abode under the blue Italian sky again in Florence, where he reproduced its azure depths and the grim cliffs, the translucent sea, the slim poplars, with nymphs, fauns, centaurs in tragic episodes or bucolic scenes, uncertain in drawing, but having qualities of color, line, and composition that impressed and charmed more and more the German lovers of art, but still jarred upon the taste of those schooled in classic forms and modern technique. Less of landscape and more of the grand figure painting characterize his later Italian period, and continued research for the color secrets of the old masters. Recondite and scientific in his technical experiments and processes, as is apparent in his later more studied and ambitious and less exuberant and spontaneous productions, the imagination which conjured up a living, moving world of pagan myth and the riotous, joyous sense of the magic of color are the marks of his genius.

Bogoliepoff, Nicholas Pavlovich, a Russian statesman, born in Serokhof, in the province of Moscow, in 1846; died in St. Petersburg, March 15, 1901. He was the son of a police officer, passed through the law course of Moscow University after receiving a medal in the gymnasium, studied also abroad, became a professor of the university, and was its rector in 1883 and again in 1891, and in 1895 became curator of the educational district. On the death of Count Delianoff, in 1898, the Czar appointed him Minister of Education. He aimed at a reform of intermediate education in which the study of Russian and modern subjects should supplant the classical languages. The students held him responsible for the new regulations adopted at the Moscow and other universities and for the harsh measures adopted to curb and discipline them, and thus he was killed by an assassin's bullet.

Bornier, Vicomte Henri de, a French poet, born in Lunel, Hérault, Dec. 25, 1825; died in Paris, Jan. 21, 1901. He began his literary career by publishing a collection of verse about 1845, followed by a five-act drama, *Le Mariage de Luther*. Some of his later writings obtained prizes from the Institut, and the *Théâtre Français* accepted, in 1868, his *Agamemnon*. He wrote the libretto of Victorin Joncière's *Dimitri*. His most famous work is *Fille de Rolland*, presented at the *Comédie Française* in 1875, with Sarah Bernhardt in the principal rôle, in which the qualities of human interest, realism, skilful construction, dramatic force, strong situations, and clearly drawn characters were set forth by well-turned polished verse in the classical method. After winning the Jean Reynaud prize with this piece he wrote *Les Noces d'Attila*, *La Moabite*, *L'Apôtre*, and *Le Fils d'Arétin*, all dramas in verse. His *Mahomet* was not allowed to be pro-

duced for diplomatic reasons. In 1893 he was elected to the French Academy as the successor of Xavier Marmier, and he held the post of librarian and afterward that of administrator of the arsenal.

Boyle, George David, a British divine, born in Edinburgh, May 17, 1828; died in Salisbury, March 21, 1901. He was the son of an eminent Scottish advocate, afterward Lord Justice-General. He was educated at the Edinburgh Academy, the Charterhouse School, and Exeter College, Oxford, took his degree in 1851, became curate of Kidderminster in 1853, and of Hagley in 1857, and in 1861 perpetual curate of St. Michael, Handsworth. In 1867 he returned to Kidderminster as vicar, was appointed an honorary canon of Worcester in 1872, and in 1880 was made Dean of Salisbury. He was interested in education, a churchman of moderate views, an entertaining talker, full of anecdote and humor, a scholar of wide reading, and a man of many friends. He published a volume entitled *Likes and Dislikes and Characters, and Episodes of the Great Rebellion*.

Brereton, Joseph Lloyd, an English clergyman, born in Little Massingham in 1822; died there, Aug. 15, 1901. His education was obtained at Rugby and at Oxford, where in 1842 he won the Newdigate prize for a poem on the battle of the Nile. He was ordained in the English Church in 1847 and held curacies in Norwich and London in 1847-50. In 1852 he became rector of West Buckland, North Devon, where he established the earliest of the county schools, institutions aiming to give a comprehensive education to children of the middle class, and established upon a county basis as distinguished from a diocesan one. In 1858 he received a prebend's stall in the cathedral of Exeter, and in 1867 succeeded his father as rector of Little Massingham. Soon after this date he founded the Norfolk County School at Elmham, and subsequently he founded Cavendish College, a similar institution, in Cambridgeshire. By the establishment of a graduated county schools association he endeavored to call into existence self-supporting schools for women and girls, and thus work out a complete system of national education. While resident in Devon he founded the Barnstaple Farmers' Club. His published books include *The Battle of the Nile* (1844); *County Education: A Contribution of Experiments, Estimates, and Suggestions* (1874); *The Higher Life: Attempts at the Apostolic Teaching for English Disciples* (1874).

Bretschneider, E., a Russian sinologist, died in St. Petersburg, May 14, 1901. He was a medical man by profession, physician for many years to the Russian legation at Peking, where he devoted himself to the study of Chinese archeology, history, language, and geography. He published *Fu-sang, or Who Discovered China? The Knowledge Possessed by the Ancient Chinese of the Arabs and Arabian Colonies, Chinese Medieval Travels to the West, Archeological and Historical Researches in Peking, Medieval Researches from Eastern Asiatic Sources, On the Study and Value of Chinese Botanical Works, and History of European Botanical Discoveries in China*. He also made one of the best maps of China.

Bright, William, an English ecclesiastic, born in Doncaster in 1824; died in Oxford, March 6, 1901. He was the son of the town clerk, was sent to Rugby school at the age of thirteen, and having been prepared for Oxford under Dr. Arnold, entered University College, was graduated with classical honors in 1846, took a theological

scholarship and was elected a fellow of his college in 1847, was ordained deacon in 1848 and priest in 1850, and in 1851 became theological tutor at Trinity College, Glenalmond, in 1851. For eight years he directed the theological training of all candidates for holy orders in the Scottish Episcopal Church, and was also lecturer on ecclesiastical history. At the end of that period the Scottish College of Bishops dismissed him because he said in a private letter that in some respects the English Reformation was a mistake. He returned to Oxford, where he was still a tutor in University College, and in 1868 was appointed Regius Professor of Ecclesiastical History and a canon of Christ Church. Till that time he had published only a collection of ancient collects from various rituals and a Latin version of the Prayer-Book. He possessed an unrivalled knowledge of the ancient councils and patristic literature, and subsequently he prepared editions of Eusebius and Socrates, works on Athanasius, Augustine, and Leo the Great, and two volumes of sacred poetry—Hymns and other Verses (1874) and Iona and other Verses (1886).

Broglie, Albert, Duc de, a French statesman, born in 1821; died Jan. 19, 1901. He was descended from the Italian family Broglia, long naturalized in France, having furnished under the monarchy a series of ministers, marshals, and diplomatists. Prince Albert was trained for diplomacy, and the fact that his father was a prince of the Holy Roman Empire secured him a good reception at German courts. His career was cut short by the revolution of 1848 just as he had received the appointment from the Government of Louis Philippe of secretary of legation. During the second empire he was as an Orleanist condemned to political inactivity except as an Opposition writer. He wrote for the *Revue des Deux Mondes*, became a historian, publishing *L'Eglise et l'Empire Romain au IV Siècle* in 1856, and was elected to the French Academy in 1862, succeeding to the chair of *Lacordaire*. Although he detested parliamentarism, he came forward as a candidate for the Chamber when the empire was nearing its end. In 1871 he was elected to the National Assembly in the Department of the Eure, where the hereditary seat of the Broglie family was. Thiers kept him away from the Chamber by giving him the appointment of ambassador to London, but he returned occasionally to Versailles, and finally resigned his post in order to engage in active opposition to Thiers and work for the restoration of the monarchy. He was successful in bringing about the resignation of Thiers and the election of MacMahon as President of the French Republic. He was made Premier and Minister, first of Foreign Affairs, then of the Interior. The refusal of the Comte de Chambord to give up the white flag was the first check to his plan to restore the Bourbon throne. When, after the fall of Jules Simon's ministry, the reactionary Broglie-Fourtou Cabinet was ready to attempt a state stroke, President MacMahon would not resort to violent illegality, and thus the republic was once more saved from upheaval and civil conflict. The Chamber was dissolved with the approval of the Senate, but in the succeeding elections the Republicans triumphed. The Duc de Broglie resigned the premiership on May 16, 1877, and retired into private life, discredited and reprobated until the passions he had excited were stilled and he passed into history. His haughty and repellent manners, his small, insignificant figure, his shrill voice and awkward gesticulation, and his contempt for oratorical allurements and flour-

ishes and for all other devices for gaining popularity, would have made him and the cause of the monarchy before the public almost contemptible and ridiculous when he was matched against the genial and brilliant Gambetta, and of the inherent weakness and dissension of the monarchists, contending with three pretensions to two flags for a single crown, did not render the cause hopeless under any leader. The Duc de Broglie was an acute, energetic, and fearless statesman, the most sincere and courageous of the monarchist politicians, whose unattractive personality would not have stood in the way of the restoration of the Bourbons, which he was the most competent to direct, if France could have lived again under the old *régime*, though a more popular politician might in his place have overturned the republic and brought to pass a restoration more untimely and unnatural than the one that the allies forced upon France in 1814, but it would not have survived one free election or the first popular uprising. Broglie retained his seat in the Chamber, keeping silence, however, until the law of Jules Ferry, restricting the clergy, brought him to his feet, after which he subsided again, and was not reelected in 1885. After his exit from the political stage the Duc de Broglie attended the Thursday meetings of the Academy with the utmost regularity, discoursed on politics with the sympathetic ladies of the Faubourg St. Germain, and returned to his historical studies, the fruits of which were *Marie Thérèse* (1888), *Histoire et Diplomatie* (1889), and *Mémoires de Talleyrand* (1891). He left four sons.

Brooks, James, an English architect, born in Hatford, England, March 30, 1825; died in London, Oct. 7, 1901. His early education was obtained at the grammar school at Abingdon, and in 1847 he studied at the Royal Academy schools. He began the practise of architecture a few years later, and in 1860 had become a fellow of the Royal Institute of British Architects, and from 1892 to 1896 was its vice-president. In 1884 he became a member of the Architectural Association. He was appointed architect to the diocese of Canterbury and consulting architect to the Incorporated Society for Building Churches. He was mainly a church architect, and by preference a Gothic church architect, but he treated Gothic after a manner of his own, and was aware that medieval designs could be carried out in brick as well as in stone. He depended for effect on mass and composition rather than on ornament, and his churches are uniformly solid and dignified, with no trace of sham. Among many important churches erected by him may be named St. Michael's, Shoreditch, 1869; Church of the Annunciation, at Chiselhurst, 1870; Holy Innocents, Hammersmith; St. Mary's, Hornsey; All Saints, Southend, Essex; and St. Luke's, Enfield, Middlesex. In 1886 he submitted a design for the proposed Cathedral of Liverpool which exhibited much picturesqueness of treatment in addition to strength and thought in the conception.

Brozik, Vasclav, a Bohemian painter, born in Pilsen in 1851; died in Paris, April 14, 1901. He studied in the Academy of Art at Prague and under Piloty in Munich, went to Paris in 1876, and in 1878 exhibited *The Embassy of Ladislas at the Court of Charles VII of France*, now in the Berlin Museum, which won a gold medal. Most of his canvases are large compositions. Some of the more famous are *The Condemnation of John Huss*, bought by the city of Prague; *Petrarch and Laura at Avignon*; *A Feast in the House of Rubens*; *Christopher Columbus at the Court of Ferdinand and Isabella*, presented to

the Metropolitan Museum of New York by Morris K. Jesup; and Rudolf II of Austria and the Alchemist, in the Stuart collection of the Lenox Library of New York, where also hangs the smaller picture of Grandmother's Birthday.

Brydon, John McKean, a Scottish architect, born in Dunfermline, Scotland, in 1840; died May 28, 1901. He was educated in his native town and began his professional career in Liverpool at the age of sixteen. He soon went to London and became a fellow of the Royal Institute of British Architects in 1881, and a member of the council of the institute many years. His specialty was the designing of public buildings, and at Bath, where he was employed seven or eight years, he built the municipal buildings, the technical schools, the extension of the pump-room, and the Victoria Art Gallery. Important works of his elsewhere are the Southwest London Polytechnic, at Chelsea; Chelsea Vestry Hall; Chelsea Free Library and Victoria Galleries; and the London School of Medicine for Women. In 1898 he was one of eight architects recommended to the Government by the Royal Institute for the new public offices, and to him was assigned the block for the Local Government Board and the Board of Education. Like the late Mr. Young, appointed at the same time to execute the War Office block, he died before completing his work. Brydon's work at Bath is thoroughly in harmony with the older architecture of that city, and better than any one else he understood the Bath phase of English classic.

Buchanan, Robert Williams, English author, born in Caverswall, Staffordshire, England, Aug. 18, 1841; died in London, June 10, 1901. He was the son of a Socialist editor and lecturer,

and obtained his education at the high school in Glasgow and at Glasgow University. In 1860 he went to London with his friend David Gray, the Scottish poet, and the two young men lived in a garret together until Gray presently died of consumption. Buchanan, befriended by Sydney Dobell and Richard Monckton Milnes, soon began to make his way in literature,

attaining in the sixties and early seventies considerable fame as a poet. In 1871 he secured an undeniable notoriety by a savage attack upon Swinburne and Rossetti in the *Contemporary Review*, in an article entitled *The Fleshly School of Poetry*. The paper was not without some excuse, so far as certain of its assumptions were concerned, but its value was much impaired by intemperate language, and it is generally believed that its publication shortened Rossetti's life. Buchanan repented of his harshness in later years and dedicated his romance *God and the Man* to the memory of Rossetti. Buchanan showed singularly little appreciation of the work of his contemporaries, and, although warm-hearted and generous in certain respects, displayed great bitterness in his journalistic writing, and was too much given to violence of expression. His novels are entertaining, though only of ephemeral interest, and he was a clever playwright, but he is seen at his best in his earlier poems, and it is by them that

he will be longest remembered. Exclusive of his plays, his writings include *Undertones* (1863); *Idylls and Legends of Inverburn* (1865); *London Poems* (1866); *Ballad Stories of the Affections*, from the Scandinavian (1866); *The North Coast, and Other Poems* (1867); *Life of Audubon*, edited (1868); *David Gray, and Other Essays* (1868); *The Book of Orm: A Prelude to the Epic* (1870); *Napoleon Fallen: A Lyrical Drama* (1871); *The Land of Lorne* (1871); *The Drama of Kings* (1871); *The Fleshly School of Poetry* (1872); *Saint Abe and his Seven Wives* (1872); *Master Spirits*, a collection of literary studies (1873); *White Rose and Red* (1873); *Poetical Works* (3 vols., 1874); *The Shadow of the Sword: A Romance* (1876); *Balder the Beautiful: A Song of Divine Death* (1877); *A Child of Nature* (1881); *God and the Man* (1881); *Ballads of Love, Life, and Humor* (1882); *The Martyrdom of Madeline* (1882); *Selected Poems* (1882); *Love Me Forever* (1883); *A Poet's Sketch-Book*, selections from his prose (1883); *Annan Water* (1883); *Foxglove Manor* (1884); *The New Abelard* (1884); *Poetical Works* (1884); *The Earthquake, or Six Days and a Sabbath* (1885); *Matt: A Story of a Caravan* (1885); *Stormy Waters* (1885); *The Master of the Mine* (1885); *That Winter Night* (1886); *A Look Round Literature* (1887); *The Heir of Linne* (1887); *The City of Dreams: An Epic Poem* (1888); *The Coming Terror, and Other Essays* (1891); *The Wedding-Ring* (1891); *Come Live with Me and be my Love* (1892); *Rachel Dene* (1894); *Diana's Hunting* (1896); *Effie Hetherington* (1896); *A Marriage by Capture* (1896); *Lady Kilpatrick* (1897); *The Reverend Annabel Lee* (1898); *Andromeda* (1900); *Father Anthony* (1900). *Storm-Beaten*, by Buchanan and Gibson, was published in 1869, and *The Charlatan*, the work of Buchanan and H. Murray, appeared in 1895. The more important of Buchanan's dramas are *The Witchfinder*, *A Nine Days' Queen*, *Lady Clare*, *Alone in London*, *Joseph's Sweetheart*, *A Man's Shadow*, *Dick Sheridan*, and *Sophia*, the last-named an adaptation from Fielding's *Tom Jones*. He gave readings from his poems, and he visited the United States in 1884.

Burr, Mrs. Katherine Douglas (King), an English novelist, died in Rushall, Staffordshire, England, Nov. 27, 1901. She was best known as Katherine King, her marriage to the Rev. Godfrey Burr, vicar of Rushall, having taken place within a year of her death. Her published books include *Petite's Romance* (1870); *Ethel Mildmay's Follies* (1872); *The Queen of the Regiment* (1872); *Lost for Gold* (1873); *Cruel Constaney* (1873); *Off the Roll* (1875); *Our Detachment* (1875); *The Bubble Reputation* (1878); *A Fallen Foe* (1883); *The Law Forbids* (1885); *Sweet is True Love* (1888); *The Scripture Reader of St. Mark's*; *A Bitter Vintage*; *Ursula*; and *Father Hilarion*. The proceeds from several of Mrs. Burr's novels were contributed by her to a hospital for children in the East End of London.

Campoamor, Ramon de, a Spanish poet, born in Navia, Asturias, in 1818; died in Madrid, Feb. 11, 1901. He first intended to enter the Jesuit order, changed his mind and studied medicine in Madrid, was appointed to a political office, and rose to be Governor first of Castellón de la Plana, then of Alicante, and lastly of Valencia. He was attached to the Moderate party, and became in time a pronounced Conservative. In 1862 he elucidated his political opinions in *Polemicas con la Democracia*. His first poetical publication was a collection of idyllic verses, brought out in 1840 under the title of *Ternezas y Flores*, admirable



in technical form. *Ayes del Alma* and *Fábulas Morales y Políticas*, both printed in 1842, sustained his reputation without revealing new powers. In 1853 he completed the epic poem of *Colón*, in 16 cantos. He wrote plays also that were seriously conceived but are deficient in dramatic qualities. He applied himself to philosophical questions, and in *La Filosofía de las Leyes* (1846), *El Personalismo* (1855), *Lo Absoluto* (1865), and *El Idealismo* (1883) he indulged in introspective studies and subjective psychological and emotional revelations that suggested to him the genus of poetical reveries that he called *doloras*, *humoradas*, and *pequeños poemas*.

Carte, Richard d'Oyly, an English operative manager, born in London in 1844; died there, April 3, 1901. He was the son of a maker of musical instruments. He left London University without completing his course in order to enter his father's business, composed songs and theatrical pieces, started a concert agency, and about 1870 began to devote himself to the development and encouragement of an English school of comic opera, founding the Savoy Theater for the production of the pieces of Gilbert and Sullivan. When the composer and librettist quarreled he tried the music of Sir A. C. Mackenzie, Ernest Ford, and M. Messenger without much success, and when he founded an English opera-house for serious music he met with failure.

Carter, Thomas Thellusson, an English divine, born in Eton in 1808; died in Clewer, Oct. 28, 1901. He was educated at Eton, where his father was vice-provost of the college, and at Christ Church, Oxford, graduating in 1830 with a first-class in humane letters, was ordained in 1832, and after holding two curacies, and from 1837 till 1844 the rectorship of Puddle-Hinton, in Dorsetshire, became rector of Clewer. From his Oxford days he was a zealous controversialist among the Tractarians who reclaimed for the English Church the Catholic character it lost at the Reformation and sought to restore the teachings and practises of the Fathers of the Church. From 1860 till 1899 he published a continuous series of works dealing with sacramental teaching, sisterhoods and their devotions, night offices, and the lives of Anglican devotees. He was one of the leaders of the ritualists in the controversy with the bishops and the subsequent litigation. With Lord Halifax he proposed in 1877 a concordat with the bishops which they regarded as a demand for their surrender. In 1880 Canon Carter was charged by one of his parishioners with illegal ritualistic practises, first before the Bishop of Oxford, Dr. Mackarness, who for the peace of the parish refused to grant a commission under the church discipline act; then the accuser, Dr. Julius, applied to the courts for a mandamus, which was issued in spite of the objections of the bishop, but the right of the bishop to forbid the prosecution was sustained on appeal, and the House of Lords confirmed it, a decision which stopped the prosecution of ritualists in the courts. Dr. Carter, however, thought it best to resign his benefice, retaining the wardenship of the House of Mercy at Clewer.

Cates, Arthur, an English architect, born in London, April 29, 1829; died there, May 15, 1901. He was educated at King's College School, London, and became an associate of the Royal Institute of British Architects in 1856 and a fellow in 1874. In 1870 he was made architect to the Land Revenues of the Crown, and, beside being surveyor to the Honorable Society of the Inner Temple, he held other appointments. He was honorary secretary to the Architectural Publi-

cation Society, which issued the Dictionary of Architecture, and he founded the Arthur Cates prizes for students admitted to the final examination.

Cazin, Jean Charles, a French painter, born in Samer, Pas-de-Calais, in 1841; died March 29, 1901. He was the son of a physician of Boulogne, and began his artistic work as a decorator of pottery. He studied painting with Léon de Boisbaudran, became Professor of Drawing in the special school of architecture founded by Émile Trélat in 1865, and director in 1869 of the fine-art school in Tours. When the war was over in 1871 he went to London as Professor of Drawing at South Kensington. He sent to the Salon from London his *Chantier*, which was followed after his return to Paris in 1876 by *La Fuite en Égypte*, the *Voyage de Tobie*, and *Le Départ*, three works that by refined simplicity of composition and decorative beauty made a sensation. In the Salon of 1880 his *Agar et Ismaël* won the first medal and was purchased by the state for the Luxembourg. His *Judith sortant de Béthulie*, exhibited in 1883, was criticized by many, but found more admirers when it was hung in the French centennial exposition. After that Cazin devoted himself to landscape, and his latest compositions show in their hasty execution the pressure of orders. His best works show an original and sincere master, a natural colorist of refined and cultivated mind.

Chisholm, Henry William, an English statistician, born in London, July 29, 1809; died there, Jan. 16, 1901. He was the son of a Government clerk, was educated for the civil service, and entered the Exchequer in 1824, became assistant and in 1842 successor to Beaumont Smith, chief of the bill department, who forged exchequer bills to the amount of £400,000. In 1859, on completing a statistical paper on the origin and progress of the national debt of Great Britain, he set to work on a great account of the national income and expenditure since 1688, which was completed in 1869, and after his retirement was continued down to the present time. He was chief clerk of the Exchequer when the old office of the Exchequer was abolished in 1865, and after the standards act was passed in 1867 was made warden of the standards, an office created for him and abolished when he retired in 1877. On his recommendation the trial of the pyx was continued. He was British delegate to the International Metric Commission in Paris in 1870 and 1872, and the diplomatic conference of 1875. He published a book on Weighing and Measuring.

Christie, Richard Copley, an English scholar, born in Lenton, England, July 22, 1830; died in Ribsden, Jan. 9, 1901. He took his degree at Oxford, and, settling in Manchester, engaged in educational work and held the chairs of History, Political Economy, and Jurisprudence in the newly established Owens College, in 1854-'69. He had been called to the bar from Lincoln's Inn, and in addition to his college duties he practised his profession in 1857-'77. From 1872 to 1894 he was chancellor of the diocese of Manchester. After his retirement from his profession in 1877 he gave a large part of his time to bibliographical researches, editing important bibliographical works and contributing to reviews and to the Dictionary of National Biography. The careful sketch of Mark Pattison in that publication is by him. In 1880 he published *Étienne Dolet, the Martyr of the Renaissance* (revised ed., 1899). He was a constant benefactor to Owens College, the beautiful Christie Library, designed by Waterhouse and completed in 1898, being his gift. His library,

containing 75,000 volumes, rich in Aldines, editions of Horace, and specimens of Renaissance literature, was bequeathed to the college.

Chrysander, Franz Karl Friedrich, a German musical scholar, born in Lüththeen, Mecklenburg, July 8, 1826; died in Bergedorf, Sept. 3, 1901. He was educated at the University of Rostock, and after a residence of some years in England returned to Germany and made his home in Bergedorf. He was the chief Handelian scholar of his time, and will be longest remembered for his biography of Handel, the first volume of which was issued in 1858, the second in 1860, and the first part of the third in 1867. Chrysander edited all the works of Handel for the *Handel Gesellschaft*, and editions of Bach's clavier works, and of several of Carissimi's oratorios. He also published *Über die Moll-Tonart in Volksgesängen und Über das Oratorium* (1853).

Commerell, Sir John Edmund, an English naval officer, born in Horsham, Jan. 13, 1829; died in London, May 21, 1901. Entering the navy at the age of thirteen, he served in China. He attained a lieutenancy in 1848, commanded a gunboat in the Crimean War, and won the Victoria Cross for landing with two seamen on the shore of the Sea of Azof and destroying a great store of grain. In 1859 he commanded a vessel in the China seas and distinguished himself in a brave and unsuccessful land attack on the Taku forts, for which he was made a captain. In command of the *Terrible*, he assisted in laying the Atlantic cable in 1866, and was selected in 1869 to try the turret-ship *Monarch*. In 1871 he was commodore and commander-in-chief on the west coast of Africa, which he had to leave in 1873, having received a dangerous bullet wound while reconnoitering the position of the *Ashantis* on the *Prah* river. In 1877 he was second in command in the Mediterranean, with the rank of rear-admiral. As vice-admiral he commanded on the North American and West Indian station from 1882 till 1885, then returned to England and sat in Parliament for Southampton and endeavored to impress on the public and legislators the needs of the navy. He resigned his seat in 1888 on being appointed commander-in-chief at Portsmouth, having been made admiral in 1886. After the death of Sir Provo Wallis, in 1892, he was, at the Queen's desire, promoted over the heads of one or more senior admirals to be Admiral of the Fleet, and in 1899 he was retired.

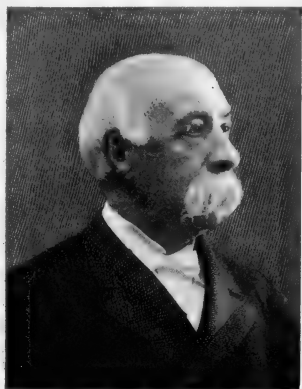
Coronini, Count Franz, an Austrian politician, born in Görz in 1833; died there in August, 1901. His father, Gen. Coronini, was the preceptor of Franz Josef, and he himself and Count Taaffe were youthful companions of the future Emperor. Entering the army, he served in the campaigns of 1859 and 1866, and retired in 1867 with the rank of lieutenant-colonel. The electors of his native place then sent him to the provincial diet and next to the Austrian Reichsrath, where he sat with the Constitutional party, but showed extremely moderate tendencies and leanings toward the Government, and even toward clericalism. In 1878 he broke away from the Germans when they opposed the expedition to Bosnia and Herzegovina. When Count Taaffe succeeded in 1879 in inducing the Czechs to re-enter the Reichstag, Count Coronini was elected president, and retained the office until the attacks of the German Liberal press drove him in 1881 to give up his place to Herr Smolka. Having been reelected a Deputy, he attempted to form a Left Center group which should act with the Constitutional majority. The Coronini Club was composed mainly of Italian members from

the coast land, and till it broke up, in 1895, it held the balance between Conservative principles and Constitutional ideas, and often had a decisive influence. When Count Coronini, in the debate that brought about the fall of the Windischgrätz ministry, supported the Slovenes in their demand for a gymnasium, his Italian followers deserted him and voted with the Germans.

Creighton, Mandell, an English historian, born in Carlisle, England, July 5, 1843; died in Fulham, England, Jan. 14, 1901. He was educated at Oxford, and was a fellow and tutor there in 1867-'75. After being ordained priest in the Church of England in 1875, he was vicar of Embleton, Northumberland, 1875-'84, and for the last seven years of this period was also rural Dean of Alnwick. From 1885 to 1891 he was canon residentiary of Worcester cathedral, holding the post of Dixie Professor of Ecclesiastical History at Cambridge University for the same time. He was also Hulsean lecturer at that university in 1893 and Rede lecturer in 1895. At Oxford he was select preacher to the university for eight years, and was Romanes lecturer in 1896. As a fellowship at Emmanuel College was attached to his professorship at Cambridge, he represented that college at the two hundred and fiftieth anniversary of Harvard University in 1886. In 1896 he represented the English Church at the coronation of the Emperor of Russia. In 1891 he was consecrated Bishop of Peterborough, and on Nov. 1, 1896, was translated to the see of London. At the moment of his promotion to this see, some of the clergy within the diocese had become conspicuous for their extravagances of ritual, but Bishop Creighton, through the exercise of moderation and firmness, was presently able to restore order. He held that the Church rested on an appeal to sound learning, and, while willing to allow all reasonable latitude, he insisted upon "a recognizable type" of service, and that no doctrine should be taught exhibiting a tendency toward either Roman Catholicism or medievalism, or in any way contrary to the distinguishing features of the English Church. As a writer, Bishop Creighton will be longest remembered by his *History of the Papacy*, the literary charm of which is very marked. It exhibits perfect comprehension of the subject, completeness of detail, and a clear style. It is not lacking in touches of humor, or passages of even brilliant narration, but accuracy is never sacrificed to picturesque effect. The bishop was a man of wide culture, but, like many another brilliant scholar, sometimes displayed traces of intellectual intolerance, and the playful humor that he did not always repress perplexed extremely literal persons. His published writings include *A Primer of Roman History* (1875); *The Age of Elizabeth* (1876); *The Life of Simon de Montfort* (1876); *The Tudors and the Reformation* (1877); *A History of the Papacy during the Period of the Reformation* (1882-'94); *Cardinal Wolsey* (1888); *Carlisle, in the Historic Towns series* (1889); *Persecution and Tolerance* (1895); *The Early Renaissance in England* (1895); *Queen Elizabeth* (1896); *The English National Character* (1896); *The Heritage of the Spirit, and Other Sermons* (1896); *Church and State* (1897); *The Story of some English Shires, a work of much importance* (1897); *Lessons from the Cross* (1898).

Crispi, Francesco, an Italian statesman, born in Ribera, Sicily, Oct. 4, 1819; died in Naples, Aug. 11, 1901. His family, of Albanian and Greek descent, had formerly been prominent in the landholding aristocracy of Sicily. His father was an advocate and mayor of Ribera. His uncle, a

bishop, undertook to educate the boy, and in the monastery and seminary of Monreale brought him up to be a priest. Young Crispi chose rather to be a lawyer, studied in the University of Palermo, took his degree at the age of eighteen, continued his studies in preparation for entering the



magistracy, but married rashly a beautiful girl, and, having offended the procurator-general by disputing with him the theory of taxation, opened an office as advocate and made a forensic reputation at once by saving a brigand from the gallows. He removed to Naples, his young wife and her child having both died, and his legal career

was wrecked by the interest he took in the revolutionary movement of Young Italy which was stirred into a blaze in the two Sicilies by the repressive violence of the bigot Ferdinand II. The suicide of his friend Arcto, whom he celebrated in a touching political sonnet, and the execution of the Bandiera brothers in 1844 helped to make Crispi, not without a mental conflict between revolutionary ideas and the priestly training of his youth, a champion of Italian unity and a Republican, for he was not yet won over to the leadership of Piedmont. He first joined Poerio's revolutionary society, an open body with secret political aims, in 1843, and when insurrections broke out in different parts of the peninsula in 1846 he alone of the leading members escaped arrest, and thus became the chief organizer and director of the revolutionary propaganda. He reached Palermo on the day after its seizure by the insurgents on Jan. 12, 1848, and for the next year he was one of the heads of the revolutionary Government, and as Secretary of War organized the Sicilian army. He founded a newspaper to advocate his ideas, and in the Chamber of Commons he advanced a policy in which Sicilians were generally in agreement—administrative independence of Sicily in a confederation of the Italian peoples. The victory of the Austrians at Novara, the successes of the Bourbon troops, and the widening chasm between the Moderates and the Radicals and Republicans impelled the Moderates, who were in the majority, to vote in the Sicilian Chambers, in April, 1849, to accept the mediation of France and England. Crispi abstained from voting, but he was excluded by name from the amnesty, and fled to Turin, where he wrote with Depretis and other ardent advocates of Italian unity for the *Progresso* newspaper until Piedmont itself was closed to him in consequence of the outbreak at Milan in 1853. He stayed a short time in Malta. In London, his next refuge, he came in contact with Mazzini. After a year of starvation he went to Paris, where he remained until the police expelled him in consequence of Orsini's attempt in 1858 on Napoleon III. The peace of Villafranca, forced upon Sardinia, provoked insurrections in Parma, Modena, and Tuscany in favor of annexation to Piedmont and brought back exiled leaders who entered Tuscany and Emilia secretly to take charge of the movement. Crispi, disguised

as a gray-bearded Argentine merchant, with a pass procured by Mazzini, landed in Messina, and went through Sicily organizing bands of patriots, teaching them to make bombs, and promising to return to head the rising on Oct. 4, 1859. His friends lost heart as soon as he turned his back, and, going first to London to provide himself with another disguise and a new forged passport, he traveled all over Italy seeking assistance for the deliverance of his native Sicily from the yoke of the Bourbons. In Modena, Farini promised him 1,000,000 francs, and in Turin he won over Ratazzi, the Prime Minister. He went with his friend Pilo to Genoa to appeal to Garibaldi to reassemble the disbanded volunteers who were menacing the papal states and lead an expedition to Sicily. When Garibaldi made a Sicilian rising the condition, Pilo undertook to get up a sufficient movement. If the King of Sardinia and Cavour knew what was going on, they shut their eyes. On May 5, 1860, Garibaldi sailed with his thousand men from Quarto to invade Sicily and defy an army of 36,000 regulars and a fleet of 24 frigates. He almost drew back at the last moment, but Crispi's confidence gave him hope. Landing on May 11, Garibaldi's legion won the fight at Calatafimi four days, and on May 27 the revolutionists were masters of Palermo. Garibaldi crossed over to Naples, and on Oct. 1, with the watchword of Italy and Victor Emanuel, he defeated the Bourbon army at Voltorno. Garibaldi had taken the head of the provisional Government and named Crispi his Secretary of State on May 17. Crispi had accepted the monarchy because that would unite, while the republic would divide Italy. Garibaldi always acknowledged that the winning of the Sicilies and the final union of the Italian lands into one kingdom was due in a greater degree to the untiring energy and fiery zeal of Francesco Crispi than to his own action. He steadfastly refused to part from him, although suspicion and calumny reached his ear from all sides. La Farina, who was Cavour's representative in Sicily, was unwilling to yield the fruits of victory to another, although he himself had shrunk from the fight. Cavour could not be induced to countenance a Red Republican, the emissary of Mazzini. Garibaldi made Crispi Minister of the Interior and Finance, and in this office he developed an astonishing degree of energy and organizing talent; yet, when Victor Emanuel entered Naples, he had to go, and he surrendered his office without an effort to assert his claims and merits. In February, 1861, he entered the Italian Parliament at Turin and took his seat with the Extreme Left. As a Sicilian among Piedmontese bureaucrats, shunned by the Republicans as a turncoat and suspected by the Ministerialists as a Mazzinist, his position was a lonely one, and he neither claimed nor was claimed by any party. He attacked the Prime Ministers, Ratazzi in 1862 and Minghetti in 1863, accused the Government in 1864 of procuring the plot against Napoleon III of which Mazzini was accused, was denounced in 1865 by Mazzini as a renegade, in reply to which he avowed his sincere conversion to the monarchy, was defeated as the candidate of the Left for the presidency of the Chamber in 1866, and in 1867 became the acknowledged leader of the party. His means of living came from his profession, and when the seat of Government was transferred to Florence in 1865 and to Rome in 1870 he had to build up a new practise in each place. When the Left came into power in 1876 Depretis was called upon to form a ministry, and Crispi was chosen president of the Chamber.

In December, 1877, he entered the Cabinet as Minister of the Interior in succession to Nicotera. Crispi, the most masterful, impetuous, energetic, and eloquent of Italian politicians, the greatest organizer and administrator, born to act and to command, had waited until others were passing from the scene before reaching a position in which his talents and his authority could be displayed. But this day was even yet not come. He was soon driven from office by a scandal started by a Neapolitan whom he had dismissed from a post in the Ministry of the Interior. In the days of his revolutionary activity he had gone through a form of marriage in Malta with Rosalie Montmasson, with whom he lived nearly twenty years, then separated from her, making her a satisfactory allowance. The marriage was not in legal form, and in January, 1878, he married the widow Lina Barbagallo, of Syracuse. His enemies accused him of bigamy and brought him before the Neapolitan court. Although acquitted on the criminal charge, his moral reputation suffered to such a degree that his political prestige and influence seemed forever shattered. In March he resigned his office. In a short time he regained his power in the Chamber. He joined the pentarchy in 1883, a combination of groups which lost control as the result of the election of 1886. The defeat of the Italian expedition into Abyssinia, at Dogali, in January, 1887, led to a reconstitution of the Depretis Cabinet. Crispi became Minister of the Interior and Zanardelli Minister of Justice. When Depretis died in July the voice of the people designated Crispi as his successor. He represented in Italy the idea of a democratic monarchy and he represented the south. His coming to power at the age of sixty-eight signified therefore the triumph of democracy over monarchical and aristocratic traditions and the shifting of the political center of gravity from Piedmont to Sicily. King Humbert with reluctance commissioned him to form a ministry, which was completed on Aug. 7, 1887. He took the portfolio of Foreign Affairs. The triple alliance, into which Italy had entered after the French occupation of Tunis in 1881, was in danger owing to the menaces of France and the vacillating mood of Italian opinion. Crispi took a bold stand where Depretis had been weak. He visited Bismarck at Friedrichsruhe to signify to the world Italy's adhesion to the alliance. He denounced the commercial treaty with France instead of waiting for French action. He made overtures with England for a Mediterranean naval understanding or alliance. Even in Abyssinia he gained a triumph in the treaty of Ucciali signed in May, 1889. The mightiest man in Italy since Cavour, he seemed to have given vigor and power to the kingdom and did impart a prestige among nations that it never possessed before. The tariff war with France had unfortunate economical consequences, and foreign prestige imposed financial burdens. The deficits of the treasury grew enormous, yet Crispi would not listen to proposals for reducing the national armaments. In 1891 he had to give way to a Government of the Right under the Marquis Rudini, who was succeeded in the following year by Giolitti with a coalition Cabinet. Neither of them accomplished any financial reforms, reduction of armaments, or changes in foreign and colonial policy. The triple alliance was renewed on terms which Crispi called unfavorable to Italy. The financial and economic situation grew worse, and finally came the crash of 1893, revealing bank scandals. Giolitti had to withdraw under a cloud, and Crispi returned to power in November, 1893.

He put down the disturbances in Sicily with an iron hand, and dissolved Socialist associations, incurring the enmity of the Socialists and Radicals, who brought accusations involving him in the bank scandals. He could not rebut the charges of having shielded forgers and embezzlers and countenanced the use of the bank funds for electoral purposes, if not for his private benefit. To hush up the scandal he suddenly dissolved Parliament at the end of 1894 and ordered the prosecution of Giolitti, who had given form to the charges by revealing official secrets. Crispi's former foes were those on whom he now relied. He even offered the hand of friendship to the Church, declaring religion to be a conservative force which should act with the civil authority. The elections of 1895 gave him once more a great majority in the Chamber, but Radicals and Conservatives united in bitter personal attacks, against which he still had force to resist. The Adowa disaster brought about his downfall. It was the strangest fortuity of his career that he had to bear, nor did he attempt in the least to escape the full responsibility for the Abyssinian adventures against which he had been the foremost to warn the country. He resigned on March 5, 1896. A parliamentary investigation resulted in 1898 in exonerating him from the charges that were made against his personal integrity, but not of financial irregularities committed for party purposes. Although it was a matter of common knowledge that many Italian ministers are equally blameworthy with himself on this score, he immediately resigned his seat in the Chamber. Palermo re-elected him with an overwhelming majority.

Cutts, Edward Lewes, an English author, born in 1824; died in London, Sept. 3, 1901. After receiving a university training he took orders in the English Church in 1848, and was successively curate at Coggeshall and Billericay, in Essex. He served as secretary of the Additional Curates Society in 1865-'71, and from the last-named year until his death was vicar of Holy Trinity parish, Haverstock Hill. His writings include *A Manual of Sepulchral Slabs and Crosses* (1849); *Colchester Castle not a Roman Temple* (1853); *Essay on Church Furniture and Decoration* (1855); *Essay on Christmas Decoration of Churches* (1859); *Home Missions and Church Extension* (1861); *The Villa of Claudine: A Tale* (1861); *Scenes and Characters of the Middle Ages* (1872); *The First Rector of Burgstead: A Tale* (1874); *Turning-points of English History* (1874); *Some Chief Truths of Religion* (1875); *Pastoral Counsels* (1876); *Christians under the Crescent in Asia* (1877); *Saint Jerome* (1879); *Saint Augustine* (1881); *The Breaking of the Bread: An Explanation of the Holy Communion* (1881); *Constantine the Great* (1881); *Charlemagne* (1882); *A Devotional Life of Christ* (1882); *Addresses to Candidates for Confirmation* (1882); *Perfecting Holiness* (1883); *A Dictionary of the Church of England* (1887); *Colchester, in Historic Towns Series* (1888); *Saint Cedd's Cross: A Tale* (1890); *A Handy Book of the Church of England* (1892); *History of Early Christian Art* (1892); *Augustine of Canterbury* (1895); *Parish Priests and their People in the Middle Ages* (1898).

Dawson, George Mercer, a Canadian geologist, born in Pictou, Nova Scotia, Aug. 1, 1849; died in Ottawa, March 2, 1901. He was a son of Sir John William Dawson, the naturalist, was educated at McGill University, Montreal, and the Royal School of Mines, London, graduating in 1872 at the head of his class. On returning to Canada he made mining surveys in Nova Scotia; lectured at Morrin College, Quebec, and in 1873

was appointed geologist and botanist to the North American Boundary Commission charged with the survey of the United States boundary from the Lake of the Woods to the Rocky mountains. At the end of his labors, lasting two years, he prepared a report, with maps and plates, on the geology and natural resources of the region along the forty-ninth parallel, and in connection with this he prepared a report on the tertiary lignite formation, a memoir on the superficial deposits of the great interior plains of America, and papers on locust visitations, on the fresh-water sponges of Canada, and on the fluctuations of the Great Lakes. In 1875 he was appointed to the staff of the Geological Survey of Canada, of which he became assistant director in 1883 and director in 1895. He explored a great part of British Columbia, and made long trips in the Northwestern Territory, on one of them going by boat 1,300 miles up the Liard and down the Yukon rivers. As one of the Bering Sea Commissioners he spent the summer of 1892 in studying seal life, and on his report was based the British case. Besides his official reports he published many papers on geological, geographical, and ethnological subjects.

Dickson, Sir James Robert, an Australian statesman, born in Plymouth in 1832; died Jan. 9, 1901. He was educated in Glasgow, emigrated to Victoria in 1854, established himself in business, conducted a mortgage bank in Queensland, engaged in politics, entering the Queensland Parliament in 1873, in which he represented Ennangora for some years, was minister in several Cabinets, holding the portfolio of Public Works in 1876, was Treasurer till 1879, and again from 1883 to 1887. He became Premier and Chief Secretary in 1898, and remained for fourteen months at the head of the Government. He was an active participant in the movement for federation, and in 1900 he went to London as Delegate for Queensland to assist in procuring the passage of the Australian federation act by the Imperial Parliament. He received the portfolio of Defense in the first Federal Cabinet. His knighthood dates from 1898.

Dickson, William Purdie, a Scottish clergyman, born in Pettinam Manse, Lanarkshire, Oct. 22, 1823; died in March, 1901. He was graduated at the University of St. Andrews in 1851, and was minister of Cameron, Fifeshire, in 1851-'63. He was Professor of Biblical Criticism at Glasgow University in 1863-'73, and of Divinity in 1873-'95, and had been emeritus professor from 1895. He was also curator of the university library in 1866-'97. He published a translation of Mommson's History of Rome (1862-'67); Mommson's Roman Provinces (1887); and St. Paul's Use of the Terms "Flesh and Spirit" (1884).

Dompierre d'Hornoy, Admiral, a French naval officer, born in 1816; died March 21, 1901. He took part in African campaigns, the bombardment of Sebastopol, and in the expedition to Mexico. During the siege of Paris, having the rank of vice-admiral, he was a delegate of the Ministry of Marine, and in 1873 he became minister himself in the Broglie Cabinet, and kept the place till May 22, 1874. In 1871 he was elected to the National Assembly from the Somme, and sat with the Legitimist Right. From 1877 to 1881 he was a Senator, and from 1885 to 1889 a Deputy.

Drayson, Alfred Wilks, an English soldier and astronomer, born April 17, 1827; died in Portsmouth, England, Sept. 27, 1901. He received his first commission in the English army in 1846,

and in 1882 he retired, receiving the honorary rank of major-general the next year. During this period he served in Africa, India, and Canada, and was for many years Professor of Astronomy in the Royal Military Academy at Woolwich. Some time since he propounded the theory of the earth having a second rotation, and the reasons for his belief are set forth in a pamphlet entitled *The History of an Astronomical Discovery* (1901). He wrote books of adventure, and his books upon military topics have met with general acceptance. He was an enthusiastic naturalist, and, although a keen sportsman, had the greatest dislike to useless slaughter. His *Art of Practical Whist* is recognized as a standard work. His published writings include *Description of the Patent Elongating Tunnel Telegraph Cable*, with C. R. Binney (1858); *Sporting Scenes among the Kaffirs of South Africa* (1858); *Great Britain has been and will be again within the Tropics* (1859); *The Earth we Inhabit: Its Past, Present, and Probable Future* (1859); *The Common Lights in the Heavens and How to See and Know Them* (1862); *Practical Military Surveying and Sketching* (1862); *Tales at the Outspan* (1862); *Adventures of Hans Stork, the South African Hunter and Pioneer* (1868; new ed., entitled *Among the Zulus*, 1879); *The Young Dragoon* (1870); *On the Cause, Date, and Duration of the Last Glacial Epoch of Geology and the Probable Antiquity of Man* (1873); *The Cause of the Supposed Proper Motion of the Fixed Stars* (1874); *The Gentleman Cadet: A Tale* (1874); *The Art of Practical Whist* (1879); *Experiences of a Woolwich Professor at the Royal Military Academy* (1886); *The White Chief of the Caffres* (1886); *From Keeper to Captain* (1888); *Thirty Thousand Years of the Earth's History* (1888); *The Diamond Hunters of South Africa* (1889); *Untrodden Ground in Astronomy and Geology* (1890); *Whist Laws and Whist Decisions* (1890); *Intellectual Whist* (1899); *The History of an Astronomical Discovery* (1901).

Duthiers, Baron Henri de Lacaze, a French naturalist, born in 1821; died in Las Fous, Périgord, July 22, 1901. He studied medicine in Paris, became Professor of Zoology at Lille in 1854, was sent on a scientific mission to the Mediterranean in 1862, and on his return published his book *Le Corail*, which gave him a world-wide reputation. He was appointed Professor of Natural History at the Museum in Paris in 1865, and obtained a chair at the Sorbonne in 1868. In 1871 he succeeded M. Longuet at the Academy of Sciences. He was instrumental in founding marine laboratories at Roscoff and Banyuls.

Elliot, Sir George, an English naval officer, born in 1813; died in London, Dec. 13, 1901. He was the eldest son of Admiral Sir George Elliot, and entered the navy in 1827. In 1834 he was promoted to the rank of lieutenant, and he rose through successive promotions to be rear-admiral in 1858, vice-admiral in 1865, and admiral in 1870. From 1874 to 1877 he was commander-in-chief at Portsmouth, receiving the order of K. C. B. in 1877, and retiring from the service in the following year. In 1885 Admiral Elliot published a valuable Treatise on Future Naval Battles, and How to Fight Them.

Ellis, Mrs. Annie (Raine), an English author, born in Durham, England, in 1828; died Sept. 2, 1901. She was the daughter of James Raine, of Durham, a noted antiquary, and an elder sister of Canon Raine, of York, and of Mrs. Alfred Hunt, the novelist. She received a good classical education and passed much of her life in an antiquarian atmosphere. Beside edit-

ing reprints of Evelina and Cecilia, with notes, and also editing Miss Burney's Early Diaries, Mrs. Ellis wrote *Marie, or Glimpses of Life in France* (1879); *Sylvestra: Studies of Manners in England from 1770 to 1880* (1880); and *Mariette* (1884).

Errazuriz, Federico, President of Chile, born in Santiago in 1850; died in July, 1901. He was educated as a lawyer with a view to political life. Inheriting a large estate, he gave much study to improvements in agriculture. He sat in Congress as a Deputy from 1876 till 1889, when he was elected Senator for the Province of Maule. Under President Balmaceda he was appointed Minister of War, and displayed tact as well as energy in that office. In 1891 he joined the revolutionists, and when the congressional party finally won he was foremost in advocating a general amnesty. He was elected President in June, 1896.

Eyre, Edward John, an English administrator, born in Yorkshire in August, 1815; died in Tavistock, Dec. 21, 1901. He was the son of a clergyman and was educated for the army, but on failing to get a commission emigrated to Australia in 1833 and engaged in raising cattle and sheep. He acquired an estate on Murray river, became an advocate of the rights of the natives, and distinguished himself by explorations which he described in *Discoveries in Central Australia* (1845). He was then appointed Lieutenant-Governor of New Zealand, and in 1853 of St. Vincent, and in 1856 was transferred to Antigua, where he acted for two years as Governor of the Leeward Islands. He returned to England with impaired health, but was sent out in 1862 to act as Governor of Jamaica in the absence of Sir Charles Darling, and in 1864 was appointed Governor. The island was passing through evil days, the civil war in the United States having made food dear. The Governor quarreled with the Legislature, in which the negro element was in the ascendancy, and the colored population attributed their sufferings to the oppression of the whites. On Oct. 11, 1865, a serious riot occurred at Morant Bay. Negroes killed the magistrates of the parish and many volunteer soldiers and civilians who came to their assistance, and then proceeded inland, committing robberies and atrocities. Gov. Eyre proclaimed martial law in the eastern county where these events occurred, and in a few days the troops had checked the insurrection. George William Gordon, a negro member of the Legislative Assembly, was arrested in Kingston, where martial law was not in force, as an instigator of sedition, and was taken to Morant Bay, tried by court-martial, and summarily executed, and the same punishment was meted out to 354 persons in the disturbed district, while 85 were shot down without trial, 600 were flogged, and 1,000 houses were burned. The levity and ferocity displayed in these proceedings shocked public opinion in all civilized countries. Commissioners were sent from England, who found that the majority of the persons tried were condemned without a semblance of evidence. In England, John Stuart Mill took the lead of an agitation for the trial of Gov. Eyre as a murderer. Thomas Carlyle wrote in his defense and extolled him as a hero who with British resolution and intrepidity had rescued a British colony from massacre and the horrors of a negro rebellion. The Government recalled Gov. Eyre, appointing as his successor Sir Henry K. Storks, chairman of the royal commission that had pronounced the punishments excessive, the continuance of martial law unnecessary, the hangings unnecessarily frequent, the floggings reckless and barbarous, and

the burning of houses wanton and cruel. John Stuart Mill's Jamaica committee raised funds to prosecute Eyre and his subordinates. Complaints and trials took place, but neither Eyre nor Gen. Nelson, who commanded the troops in Jamaica, nor Lieut. Brand, who presided at the courts-martial, could be convicted. Mr. Eyre retired on a pension.

Faber du Faur, Otto, a German painter, born in Ludwigsburg in 1828; died in Munich in August, 1901. He was the son of a Württemberg general who was a good painter of battle scenes, and he too attempted to combine art with a military career, but gave up the latter, and in 1867 resigned his commission and began the serious study of art at Munich with Kotzebue, at Paris with Yvon, and at Munich again with Piloty. He became one of the strongest battle painters in Germany. He began with historical pictures in Piloty's manner, such as the Departure of the Elector Frederick V from Prague, but soon quitted this field and devoted himself to depicting battles of the Napoleonic wars in which his father had borne a part. The Retreat from Moscow furnished him with numerous subjects. His aquarelle representing the Passage of the Beresina is in the Luxembourg gallery in Paris. The war of 1870 gave him material for some of his best paintings, among which are the Battle of Champigny, the Panorama of the Battle of Wörth (McMahon's defeat, Aug. 6), now in Hamburg, and the Ambulance behind a Barricade.

Farmer, John, English organist and composer, born in Nottingham, England, Aug. 16, 1835; died in Oxford, July 17, 1901. After pursuing his education at Nottingham, Leipzig, and Coblenz, he taught music in Zurich in 1856-'61. He was organist at Harrow School from 1882 until 1885, when he was appointed organist of Balliol College, Oxford, a post which he retained at the time of his death. His work was thorough and scholarly. He published Harrow School Songs; Christ and his Soldiers, an oratorio for children (1878); Cinderella, a fairy opera for children (1882); Requiem, for departed Harrow scholars; Gaudeamus, songs for schools and colleges (1890); Dulce Domum, songs and rhymes for children; and Songs for Soldiers and Sailors.

Fick, Adolf, a German physiologist, born in Cassel in 1829; died in Blankenberge, Aug. 21, 1901. He obtained his doctor's degree at Zurich in 1852, became Professor of Physiology there in 1856, and left that university in 1868 to take the same chair at Würzburg, retiring in 1901. He was the author of many works. His treatise on medical physics appeared in 1857, a compendium of physiology in 1860, a work on the anatomy and physiology of the organs of sense in 1862, one on mechanical work of muscular action and the production of heat in 1882, and books on cause and effect and the theory of probabilities in that and the following year.

Fitzgerald, George Francis, an Irish scientist, born in Dublin in 1851; died there, Feb. 21, 1901. He was the son of Dr. Fitzgerald, Anglican Bishop of Cork, and was educated at Trinity College, Dublin, where he won scholarships in mathematics and experimental science and in 1877 a fellowship, and in 1881 became Professor of Natural Philosophy. Besides his contributions to the progress of physical science, he gave practical aid to Irish industry by his suggestions on applied science, and took a great interest in the reform of university education, in the higher education of women, in the proposal for a Roman Catholic university, and in Irish education in general.

Foa, Édouard, a French explorer, died in Paris in June, 1901, at the age of thirty-eight. He was decorated by the French Government for his journey across Central Africa, and received the grand gold medal of the French Geographical Society. He was the author of two volumes, *Mes Grandes Chasses dans l'Afrique Centrale* and *Du Cap au Lac Nyassa*, for which the French Academy awarded him a prize of 1,500 francs.

Ford, Edward Onslow, an English sculptor, born in London July 27, 1852; died there, Dec. 23, 1901. He studied at Antwerp and Munich, and after a few years became a regular exhibitor

at the Royal Academy. His earliest work to attract general attention was a seated statue of Sir Henry Irving as Hamlet, now in the London Guildhall Gallery. Other important works of his are a standing statue of Gladstone, seated statues of Huxley, Dr. Dale, and the Duke of Norfolk, the Shelley Memorial, the Jowett Memorial, the Marlowe Memorial at Canterbury, the Strathnairn monument in



Knightsbridge, and the great statue of Queen Victoria for the city of Manchester. Besides these, Ford executed many portrait busts and imaginative designs. His figures are infused with the perception of beauty of line or expression, rather than with great originality or power.

Fuller, Morris Joseph, an English clergyman, born at Lewes, Sussex, about 1835; died in Brighton, July 25, 1901. After receiving an education at Brighton College and at Cambridge, he was an assistant master at the former institution in 1855-'60. He took orders in the English Church in 1857, and for a time was curate of Buckland Monachorum, Devonshire. He was rector of Lydford, 1867-'79; vicar of East Moulsey, 1879-'84; rector of Ryburgh, 1884-'89; vicar of Bishops Tawton, 1889-'93; and vicar of St. Mark's, Marylebone Road, London, 1893-1901. He was an extreme ritualist and a very ardent controversialist, and in consequence was continually involved in ecclesiastical disputes. He published *The Court of Final Appeal*, or the Appellate Jurisdiction of the Crown in Ecclesiastical Cases (1865); *Our Established Church* (1878); *The Lord's Day: Its Unity, Philosophy, and Perpetual Obligations* (1883); *Life, Times, and Writings of Thomas Fuller, the Church Historian* (1884); *Letters on the Disestablishment Question* (1885); *Our Lady of Walsingham* (1886); *The Throne of Canterbury, or the Archbishop's Jurisdiction* (1891); and *Life, Letters, and Writings of John Davenant, 1621-1641, Lord Bishop of Salisbury* (1897).

Gilbert, Sir Henry, an English agricultural chemist, born in Hull, in 1817; died in St. Albans, Nov. 23, 1901. He was the son of a clergyman, studied chemistry at Glasgow and London Universities, and under Liebig at Giessen, and after assisting in the laboratory of University College, London, took charge in 1843 of the chemical laboratory of the experimental agricultural station of Rothamsted started by John Bennett Lawes, with whom he was associated for fifty-seven

years, making the agricultural investigations the main work of his life.

Goltz, Graf Karl von der, a German soldier, born April 12, 1815; died in Paris, Feb. 21, 1901. He entered the Prussian army in 1832, served with the cuirassiers, commanded a regiment of hussars from 1859 to 1864, then a cavalry brigade till 1872, when he was appointed acting adjutant-general to the Emperor, serving till the death of Wilhelm I.

Got, Edmond, a French actor, born in Lignerolles, Orne, Oct. 1, 1822; died in Passy, March 21, 1901. He was educated in the Charlemagne Lyceum, graduating as laureate; was then employed in the prefecture of the Seine until he entered the conservatory in 1841. He went into the Théâtre Français in 1844, playing servants' rôles and becoming a *sociétaire* in 1850. He won the public and the critics from the start by the studied naturalness of his comic acting and by his talent for stage business and the picturesque relief he gave even to the most insignificant parts. The abbé in *Il ne faut jurer de rien* was one of his earliest triumphs, Tibia in *Le Caprice de Marianne* another. He put his mark on the valets of the classical drama of Molière, Regnard, Lesage, Marivaux, and Beaumarchais; but modern creations added more to his reputation, one of the first of which was *Duc Job* of Léon Laya in 1859. Still stronger was his Giboyer, *Les Effrontés* and *Le Fils de Giboyer* of Emile Augier, his college friend, whose favorite interpreter he became. When the Comédie Française hesitated to produce *La Contagion* in 1866, he got permission to take it to the Odéon and create the rôle of André Lagarde, whose phrase meaning that the hour will come when smothered truth will burst forth in a thunderclap was frantically applauded by the students as a protest against the absolutism of the second empire, to the dismay of the author, who stood well at court. In *Léons et Renards* and the subsequent pieces of Augier he created the most striking rôles. One of his greatest successes was as the rabbi in *L'Ami Fritz* of Ereckmann-Chatrian. His *Triboulet* in Victor Hugo's *Le Roi s'amuse* was a failure, and *Bellac* in *Le Monde ou l'on s'amuse* he had to transfer to Prudhon. Edmond Got was a man of letters also. He wrote two books of opera for Edmond Mentrée, *L'Esclave* and *François Villon*. He was professor in the conservatory.

Gramme, Zénobe, a Belgian electrician, born in Jehay-Bodignée, Huy, April 4, 1826; died in Paris, Jan. 20, 1901. He was the son of an official in the tax office who had a small salary, but spared nothing in the education of his three girls, who became eminent teachers. The son learned first the carpenter's trade, which he carried on when his parents removed to Liège. There he attended the trade-school. In 1855 he went to Paris and was employed as a pattern-maker in the works of the Alliance Company, which constructed electrical apparatus, especially the Rollet electro-magnetic machines for the generation of electric illumination for lighthouses. The phenomenon of induction struck his attention, and when he found that his independent conclusions coincided with those of Faraday and Ampère he sought further instruction from Ruhmkorff and Disderi, having no theoretical knowledge till then except what he had drawn from Ganot's treatise on physics and a few other books. With a poor apparatus installed in a kitchen he began to experiment, and in 1867 he obtained his first patent, which did not relieve his want, which was extreme, for he had given up his trade and the

labor of the wife supported the family. In 1869 he produced the earliest machine with constant current, and took out a patent for it. With this his future was assured. Gramme's discovery consisted in the application of the dynamo-electric principle to Pacinotti's circuit, whereby a practical machine could be made giving a strong continuous current without a commutator. His machines that were on exhibition in Philadelphia in 1876 were bought by the United States Government. He took the first prize at the Paris exposition of 1878, and with it a reward of 20,000 francs from the French Government. The cross of the Legion of Honor was bestowed upon him, but he declined the proffered naturalization as a French citizen.

Gras, Basile, a French soldier, born Jan. 2, 1836; died in Chablis, April 14, 1901. He studied in the École Polytechnique, entered the army, served in the Italian war with distinction, began to experiment on the construction of small arms in 1864 when attached to the manufactory of arms at Tulle, served in the field during the Franco-German War, and then devoted himself once more to designing a weapon to take the place of the heavy and complicated chassepot. The French Government adopted the Gras rifle in 1874 after a competition in which over 100 models were tested. In 1886 Gen. Boulanger sent Gen. Gras on a mission to the United States, whence he brought back various inventions which were utilized in designing the Lebel rifle.

Gras, Félix, a French poet, born in 1845; died in Avignon in March, 1901. He was a police justice in Avignon and one of the



and one of the school of Mistral and Roumanille, the revivers of Provençal poetry; wrote some noted poems himself, and was the director of the Provençal Society after Roumanille's death. He was the author of a curious book, *Rouges du Midi*, which had the remarkable

fortune to be published, in an English translation, in an American periodical before the Provençal original appeared.

Greenaway, Kate, an English artist, born in London in 1846; died there, Nov. 6, 1901. She was the daughter of a noted wood-engraver, and studied in the London art schools. She became a favorite designer of Christmas cards and illustrations for story-books, in all of which the figures were children arrayed in the fashions of the Directory. In 1879 she produced a book of her own called *Under the Window*, and in 1881 the *Kate Greenaway Birthday Book*. Her reputation was spread abroad by the praise of John Ruskin, and the influence of her decorative conceptions affected popular taste and artistic activity as well, not only in England and America, but notably in France. The style of dress reproduced in her drawings became the fashion for children's wear. She produced a series of almanacs and illustrated a great number of books for children in which modern methods of color-printing were first successfully applied.

Grekoff, M., a Bulgarian statesman, born about 1845; died in Sofia. He was president of

the Chamber in 1883, became a leader of the Conservative party, was Minister of Foreign Affairs in more than one Cabinet, and in 1899 was for a short time Prime Minister. He was a jurist of ability, and was well known outside of Bulgaria, having been educated in France.

Grumbkow Pasha, a Turkish soldier, born in Germany in 1849; died about July 1, 1901. Victor von Grumbkow was an officer in the Prussian army, in which he attained the rank of lieutenant-colonel. With the approval of the Kaiser he entered the Ottoman service and with Gen. von der Goltz Pasha, who returned to the German service, he elaborated the reforms introduced in the Turkish army, especially in the artillery. In the Greco-Turkish War of 1897 he received the Osmanieh order on the field of battle in recognition of his services in preparing the army for victory. He held the rank of lieutenant-general in the Turkish army and was aide-de-camp to the Sultan. Having resigned on account of ill health, he was returning to Germany when he died suddenly on the railroad train.

Gurko, Joseph Vladimirovich, a Russian soldier, born Nov. 15, 1828; died on his estate at Sacharow, near Tver, Jan. 29, 1901. He belonged to an ancient Lithuanian family, was educated in the pages' corps at St. Petersburg, received a commission in the hussar regiment of the Imperial Guards in 1846, served in the infantry of the line during the Crimean War, then returned to his old regiment, was made aide-de-camp to the Emperor in 1860 and promoted colonel in 1861, and in 1866 was assigned to the command of the hussar regiment, having distinguished himself by his energy and capability in the Polish insurrection of 1863. He rose steadily, and in 1876 he commanded a division of the Imperial Guard. When the Turkish war broke out in 1877 he was placed in command of the vanguard, consisting mainly of cavalry. He crossed the Balkans with swift marches, having the intention of seizing Adrianople and advancing to Constantinople before the widely scattered Turkish forces could be concentrated for its defense. The bold advance, condemned from the first by orthodox strategists, was checked at the Roumelian Railroad by the combined forces of Reuf Pasha and Suleiman Pasha, a powerful Turkish force having been brought round by sea from the Montenegrin frontier and sent up from Dedeagatch by rail. The celerity of the Russians had been admirable, but the Turks developed a mobility of which they were supposed to be incapable. Having come almost within sight of Adrianople, Gen. Gurko was obliged to fight a pitched battle against superior forces, and at Eski Saghra and Kesanlyk the advanced guard and the troops that had followed them were driven back to the Shipka pass, the occupation of which was the only fruit of the costly initial movement. The lines of communication were threatened by Osman Pasha, whose presence in northwestern Bulgaria had been ignored, but who now appeared on the Russian right flank and took up a strong position at Plevna, compelling the Russians to abandon Gen. Gurko's plan of operations altogether. Gen. Gurko was called to St. Petersburg to superintend the mobilization of the guards, then returned to take part in the siege of Plevna. He displayed good generalship in his later operations, and was only less successful than Gen. Skobelev. By the taking of Gorny Dubniak he hastened the fall of Plevna, and by advancing with the guards and cavalry through Sofia and Philippopolis to Adrianople he ended the war. In Bulgaria and Eastern Roumelia he was hailed as a liberator, and after the war he was made a

general of cavalry and adjutant-general. When the nihilists made an attempt to kill the Czar in April, 1879, Gen. Gurko was appointed governor-general with unlimited powers for the repression of disorders. He established a state of siege and used military means without stint. Yet he could not cope with the secret revolutionary societies, and after the explosion in the Winter Palace in February, 1880, he was dismissed in disgrace and retired from active service. His successors did no better, and after the assassination of Alexander II, in March, 1881, he was called back, advanced to the grade of field-marshal, and in 1883 was appointed Governor-General of Poland, where he dealt with the resistance offered to Russification by using stern and vigorous measures. Retiring with broken health in 1894, he lived henceforth in seclusion.

Hall, Fittedward, an English lexicographer, born in Troy, N. Y., in 1825; died in February, 1901. He resided in Oxford, published *Modern English* (1873) and other philological works, and began in 1879 to collect references and other materials for Dr. Murray's *Oxford English Dictionary*, to which he gave gratuitously four hours of labor every day from the beginning of its preparation.

Hanbury, Mrs. Elizabeth (Sanderson), an English philanthropist, born in London, June 9, 1793; died in Richmond, Oct. 31, 1901. She was of Quaker parentage, and when Mrs. Elizabeth Fry began the systematic visiting of Newgate prison she was joined by Miss Sanderson, who devoted herself to such labor for many years, being especially assiduous in visiting convict ships for women. Until she undertook this work the condition of these convict ships was most deplorable, but, largely through her efforts, much was done to better the surroundings of the prisoners upon them. She was associated with the Gurney and Buxton families in their philanthropic work, as well as with Clarkson, the famous abolitionist. She married Cornelius Hanbury in 1826, and spent much of her after life in Stoke Newington, London, becoming in course of time an "acknowledged minister" among the Friends. Throughout her long life she maintained a deep interest in religious and benevolent undertakings, and she was still able to read and write after passing her hundredth year.

Harvey, Moses, British clergyman, born near Armagh, Ireland, in 1820; died in St. Johns, Newfoundland, Sept. 3, 1901. He received his education at Queen's College, Belfast, and was for eight years Presbyterian minister at Maryport, Cumberland. In 1852 he took charge of the Presbyterian Church in St. Johns, retiring from the ministry in 1878 and devoting himself thereafter to literary work. He was an enthusiastic admirer of his adopted country, and published much in relation to it. In 1873 he discovered the gigantic cuttlefish, since named the *Megalu- tis harveyi*. Besides contributing to the *Encyclopædia Britannica* articles relating to Newfoundland, he published *Thoughts on the Poetry and Literature of the Bible* (1853); *The Testimony of Nineveh to the Veracity of the Bible* (1854); *Lectures on the Harmony of Science and Revelation* (1856); *Lectures on Egypt and its Monuments as Illustrative of Scripture* (1857); *Lectures: Literary and Biographical* (1864); *Across Newfoundland with the Governor* (1878); *Newfoundland: The Oldest British Colony* (1883); *Newfoundland as it is in 1894* (1894); *Text-Book of Newfoundland* (1885); *Whither are we Tending?* (1886); and *Newfoundland in 1897* (1897). He wrote the article *Newfoundland* for this *Cyclopædia* in the years 1890-1900 inclusive.

Haweis, Hugh Reginald, an English author, born in Egham, Surrey, April 3, 1838; died in London, Jan. 29, 1901. He was the son of a canon of Chichester Cathedral. He was educated at Cambridge, but before taking his degree had traveled in Italy and served under Garibaldi in the struggle for independence. He took priest orders in the Established Church in 1862. After holding curacies at St. Peter's, Bethnal Green, St. Peter's, Stepney, and St. James the Less, Westminster, successively, he became in 1866 the incumbent of St. James's, Westmoreland Street, Marylebone, a Crown living, which he held up to the time of his death. He was a man of versatile talents and peculiar pulpit methods at times, but his influence was extensive. At one time he was select preacher at Westminster Abbey; he delivered a course of Lowell lectures in Boston, Mass., in 1885, and was an Anglican delegate to the Parliament of Religions at Chicago in 1893. In 1895 he made a lecturing and preaching tour of the world. He wrote extensively on both religious and secular themes, and his many books have enjoyed a wide circulation. *Music and Morals*, in which the emotional theory of music is expounded, is the best known of all of them. Besides his original work he edited several books and was for some time the editor of Cassell's Magazine. He possessed a vigorous, animated style that was not infrequently brilliant and was always entertaining. His published books comprise *Music and Morals* (London, 1871); *Thoughts for the Times* (1872); *Unsectarian Family Prayers* (1874); *Pet, or Pastimes and Penalties* (1874; enlarged with the title *The New Pet*, 1875); *Ashes to Ashes: A Cremation Prelude* (1874); *Speech in Season* (1875); *Current Coin* (1876); *Arrows in the Air* (1878); *Poets in the Pulpit* (1880); *American Humorists* (1883); *Key of Doctrine and Practise* (1884); *My Musical Life* (1884); *My Musical Memories* (1884); *Winged Words* (1885); *Travels of Dr. Livingstone* (1886); *Christ and Christianity* (5 vols., 1886-'87); *The Broad Church* (1891); *Sir Morell Mackenzie's Memoir* (1893); *Travel and Talk: 1885-'93-'95* (1896); *Ideals for Girls* (1897); *The Dead Pulpit* (1897); and *Old Violins* (1898).

Haym, Rudolf, a German author, born in Grüneberg, Silesia, Oct. 5, 1821; died in Halle, Aug. 28, 1901. He studied theology and philosophy in Halle and Berlin, taught in a gymnasium in Berlin and in a commercial school, went to Halle in 1846 to write a book on the orators of the first Prussian Diet, which on its appearance in the following year drew the attention of political circles to the author and led to his being elected from Mansfeld to the Frankfort Parliament, in which as an Old Liberal he took his seat in the Right Center. After the Parliament was broken up he conducted in Berlin the *Constitutionelle Zeitung* until he was expelled by the police. He published a history of the German National Assembly. Returning to Halle in 1851, he was made tutor of philosophy and modern literary history, and became in 1860 extraordinary and in 1868 ordinary professor. He was once sent from Halle, in 1866, to the Prussian Diet. His professorship lasted until his death. He published *Wilhelm von Humboldt* (1856); *Hegel und seine Zeit* (1857); *Arthur Schopenhauer* (1864); *Die romantische Schule* (1870); *Herder nach seinem Leben und seinen Werken* (1877-1885); and *Das Leben Max Dunckers* (1890). He was the founder of the *Preussische Jahrbücher*, and editor of the magazine from 1858 till 1864.

Hellmuth, Isaac, an Anglican clergyman, born in Warsaw, Poland, Dec. 14, 1826; died in

Weston-super-Mare, England, May 30, 1901. He was of Jewish parentage, and at the rabbinical schools to which he was sent in childhood he was notably proficient. After studying at the University of Breslau, where he became interested in Christianity, he went to England in 1841 and was received into the Christian faith. In 1844, after three years spent in the study of theology, he went to Canada, and in 1846 entered the priesthood of the Anglican Church. For some years he was rector of Sherbrooke, in the province of Quebec, and at the same time Professor of Hebrew at Bishops' College, Lenoxville. In 1863 Huron College, at London, Ontario, was opened, with Dr. Hellmuth as its president. He founded in 1867 a school for boys at London, called Hellmuth Boys' College, and in 1869 the Hellmuth Ladies' College also, his own large private fortune being unsparingly used in these enterprises. In 1871, after he had been successively archdeacon and dean of Huron, he was consecrated Bishop of Huron. Some time later he conceived the idea of founding a Western University in connection with Huron College, and in 1880 he visited England to solicit funds for that object. The institution was opened the next year. He resigned his bishopric in 1883 to become suffragan to the Bishop of Ripon in England, with the title of Bishop of Hull, but two months after his resignation it was discovered that the Act of Henry VIII regarding suffragan bishops was inapplicable to persons already consecrated as bishops. To relieve him in part from his anomalous position he was appointed assistant bishop, or coadjutor to the Bishop of Ripon, but in 1884, when the Bishop of Ripon died, Bishop Hellmuth's commission as bishop coadjutor expired. He was rector of Bridlington, Yorkshire, in 1885-'91; chaplain of Trinity Church at Pau, France, in 1891-'97; and rector of Compton Pauncefoot, Somerset, in 1897-'99. Bishop Hellmuth was a strong evangelical throughout his long career, and sympathized very little with the newer schools of thought within the Established Church. He published *The Divine Dispensations and their Gradual Development* (1866); *The Genuineness and Authenticity of the Pentateuch* (1867); and *Biblical Thesaurus* (1884).

Hemying, Samuel Bracebridge, an English author, born about 1840; died in London in November, 1901. He was called to the bar in 1862, but his time was mainly given to the writing of sensational fiction, and as Jack Harkaway he became widely known. Besides contributing largely to periodicals, he published more than 40 volumes, the chief of which are *The Castle of Ivinsk* (1860); *The Dark Cloud with a Silver Lining* (1861); *Gaspar Trenchard* (1864); *Eton School Days* (1864); *The Orange Girl* (1865); *Butler Burke at Eton* (1865); *Called to the Bar* (1867); *Secrets of the Dead Letter Office* (1868); *Contesting the County and Other Tales* (1868); *Secrets of the Turf* (1868); *The Danger Signal and Other Tales* (1868); *The Favorite Scratched* (1869); *Held in Thrall* (1869); *The Girl of the Period: Her Fortunes and Misfortunes* (1869); *The Man of the Period* (1870); *The Season at Brighton* (1870); *Curious Crimes* (edited) (1871); *The Commune in London, or Thirty Years Hence* (1871); *Too Sharp by Half* (1871); *Telegraph Secrets* (1877); *River Secrets* (1880); *On the Road, or the Adventures of a Cabman* (1880); *Strange Journeys* (1880); *In the Force* (1880); *The Bondage of Brandon* (1881); *The Women of London* (1884); *The Women of Paris* (1884); *The Stockbroker's Wife and Other Sensational Tales* (1885); *Tried for his Life and*

Other Stories (1885); *A Dead Heat* (1887); *The Demon Jockey* (1888); *Sharks of Society* (1888).

Herbette, Jules, a French diplomatist, born in 1839; died in Paris, Dec. 18, 1901. He was a consul under the empire, though a Republican, and became secretary to Jules Favre, the first Minister of Foreign Affairs under the republic. He remained at the Foreign Office, becoming chief secretary under M. de Freycinet, and succeeded Baron de Courcel as ambassador at Berlin.

Hermite, Charles, a French mathematician, born in Dieuze, Lorraine, Dec. 25, 1822; died Jan. 14, 1901. He studied at Nancy and Paris, spent his life in mathematical pursuits, and became professor at the Sorbonne of higher algebra and honorary professor at the École Polytechnique. His papers in the mathematical journals treat of the theory of numbers, algebraic forms, elliptic functions, and most of the subjects connected with higher mathematics. With Gerretet he made a new edition of the *Differential and Integral Calculus* of Lacroix (1867).

Hohenlohe-Schillingsfürst, Prince Chlodwig von, a German statesman, born in Rothenburg on the Fulda, March 31, 1819; died in Ragaz, Switzerland, July 5, 1901. He studied law in Heidelberg, Göttingen, and Bonn, entered the Prussian judicial service at Ehrenbreitstein in 1842, was attached to the courts at Potsdam and Breslau, but in 1846 his fortunes called him back to Bavaria. As a younger son he had looked forward only to a life of official routine and small emolument. The death of his eldest brother changed his fate. By a compact with his brother Victor, Duke of Ratibor, he received the domain of Schillingsfürst, making him a Bavarian magnate with a seat in the upper house of the Diet. In his friendship toward Prussia he stood alone among the members, who were suspicious of him on that account. In 1849 he was sent as Bavarian envoy to London, but soon returned, and since his liberalism and his belief in German unity under Prussian headship found no echo in the sentiments of the Bavarian aristocracy, he took little part in public affairs, though his political sagacity came to be appreciated gradually. There were a great many adherents among the middle classes of the idea of a democratic Great Germany under a Federal Parliament. In Government circles a dream was entertained of a joint control which Bavaria should share with Austria and Prussia. In the war of 1866, Bavaria refusing the favorable terms that Prussia offered in return for an attitude of benevolent neutrality, took up arms with Austria. After the crushing victory of Königgrätz, the moderate terms of peace imposed by Prussia—only a war indemnity of 30,000,000 gulden and an offensive and defensive alliance—produced a reaction in favor of Prussia, henceforth Bavaria's ally. Prince Hohenlohe, Prussia's friend, the living bridge over the Main, as he came to be called, was the man of the hour. On Dec. 31, 1866, he was appointed Prime Minister. His policy was to complete a military alliance giving the Prussian monarch command over all the armed forces of Germany and to form a South German Confederation, in which Bavaria would hold a position of more influence and dignity than if she entered the North German Confederation, which indeed Prussia did not desire, as it would alarm France. The Ultramontanes of Bavaria were opposed to the Prussian tendency, and opposed the Zollverein. Prince Hohenlohe offended them also by his school-reform projects, and while the Ecumenical Council was sitting he addressed a circular note to the powers, in which he argued that

the doctrine of papal infallibility would endanger the civil power. The Council of the Vatican created as much tension in south Germany as the question of German unity. Catholics were divided into two parties, and some were ready to secede from the Church. Princes of the Church, like Cardinal Hohenlohe, the minister's brother, strove to prevent the inevitable decision. The minister himself was in association with Catholics of the most Liberal stripe, like Dr. Döllinger. His note met with no positive response from the other cabinets. It embittered the Ultramontanes against him. They obtained a small majority in the election of 1869, and a dissolution increased it. The King still desired to retain him, and reluctantly accepted his resignation on Feb. 15, 1870, after a vote of censure had passed both houses. His influence and counsel were still potent in the great era of transformation. From his seat in the upper house he impressively advocated the participation of the Bavarian army in the war against France, and in 1871 he took the foremost part in securing the adoption by Bavaria of the Constitution of the German Empire. Being elected to the first German Reichstag from Forchheim, he was chosen vice-president. From this position Prince Bismarck called him in 1874 to represent the empire at the capital of France, after the recall and disgrace of Count Harry von Arnim. Von Arnim had closer relations with the aristocracy of the Faubourg St. Germain than with the statesmen of the republic, which he looked upon as ephemeral. He believed it to be in Germany's interest to hasten the restoration of the monarchy. Bismarck intended to pursue the contrary policy, and Prince Hohenlohe, a man belonging to the highest aristocracy, surprised both his acquaintances of the French nobility and the Republican politicians by cultivating social relations with the official world and with the constantly changing ministers of the republic, who were all alike in being sensitive and suspicious in regard to Germany. His suavity and tact smoothed away many a difficulty, and Frenchmen came to look upon him as a guardian of peace. When he was finally called away from Paris in 1885 to become Statthalter of the Reichsland much of the bitterness that Manteuffel's régime engendered passed away because Frenchmen felt that the lost provinces were now in tender hands. His administration was indeed milder than that of his predecessor, and his conciliatory efforts had such marked success that the passport system was abolished, and the hatred of German domination and the dangerous international friction which it created died out. At the end of October, 1894, on the resignation of Count von Caprivi, the Emperor summoned Prince Hohenlohe to be the third German Chancellor. His acceptance of the chancellorship of the empire and minister-presidency of Prussia averted a serious internal crisis by appeasing the Agrarians, the Bismarckians, and the Liberals at once, all of whom claimed political affinities to the new Chancellor, and he relieved the anxieties entertained abroad that the young Emperor would plunge into foreign adventures. His chancellorship was a period of transition and conflict in internal politics, but the régime of absolutism and reaction and the military ambitions which were threatened before he took office were not heard of again, and his remaining in office was a guarantee that no extreme or eccentric policy would be carried out at home or abroad. He could not restrain the jealousies and intrigues among the ministers or check their clashing party alliances that were undermining and disorganizing the ad-

ministration, and his grasp, already more supple than strong, had grown weaker with age. After a change of ministry, which came to relieve the situation, hampered, obstructed, and delayed by Dr. von Miquel and circumvented by Count Potemodowsky, the aged Chancellor, who had already resigned the conduct of foreign affairs into the hands of Count von Bülow, let the other ministers tangle up the public business till he could neither approve nor explain the Government measures. He wanted to resign, and when Count von Bülow showed qualities indicating that he could fill the office, the Emperor, Oct. 17, 1900, relieved Prince Hohenlohe of the post that he originally accepted after much solicitation for patriotic reasons.

Hood, Arthur William Acland, Lord, an English naval officer, born in Somersetshire, July 14, 1824; died in Glastonbury, Nov. 15, 1901. He entered the navy, in which several members of his family had gained distinction, in 1836, saw fighting in Spain and on the coast of Syria, became a lieutenant in 1846, was promoted commander in 1854 for services with the naval brigade before Sebastopol and captain in 1858 for services in the capture of Canton, was director of naval ordnance from 1869 till 1874, became rear-admiral in 1876, received a seat in the Admiralty, was first naval lord from 1885 till 1889, and after retiring from active service succeeded by seniority to the rank of vice-admiral in 1880 and admiral in 1886. He was knighted in 1885, and in 1892 raised to the peerage with the title of Baron Hood of Avalon.

Hopkins, Edward John, an English organist, born in London, June 13, 1818; died in February, 1901. At the age of eight he was a chorister in the Chapel Royal, and presently he became a pupil of Walmisley, the organist of St. Martin's-in-the-Fields. At sixteen he became organist of Mitcham Church, in Surrey, and at twenty was organist of St. Peter's, Islington. At this period he gained the Gresham gold medal for his anthem *God is Gone Up*. He was organist of St. Luke's, Berwick Street, in 1841-43, became organist of the famous Temple Church in London in the year last named, and retained this place till his resignation in 1898. Besides composing many anthems, voluntaries, etc., he was the author of a standard work entitled *The Organ: Its History and Construction* (1855), and of many articles in *Grove's Dictionary of Music*. His latest years were devoted to writing *An Entirely New and Comprehensive Treatise on the History and Construction of the Organ*, which at the time of his death was practically completed. His hymn tunes, which have been widely circulated, are devotional and dignified, and wholly free from sentimentality.

Hopkins, William Jeffrey, an English architect, born in 1821; died in Worcester, England, May 28, 1901. He settled in Worcester in early life, and one of his first works was the erection of the Corn Exchange (now the Worcester Public Hall). He restored churches at Norton and elsewhere in Worcestershire and built many new ones, among which are Holy Trinity, Worcester, to which he adapted the beautiful fourteenth-century roof of the ruined Guesten Hall near the cathedral; Blackheath, near Birmingham; and Hallow, near Worcester. Among country-seats designed by him are Parkfield, Worcester, and Kildangan, County Kildare, Ireland. He was a fellow of the Royal Institute of British Architects, and diocesan architect of Worcester.

Hoskins, Sir Anthony, an English naval officer, born in 1828; died in Capel, Surrey, June 21.

1901. He entered the navy in 1845, became captain in 1863, after taking an active part in the Chinese war, was a lord of the Admiralty in 1880, and in 1882 was charged with the operations for the protection of the Suez Canal previous to the arrival of Lord Wolseley's forces, in which he acquitted himself in a manner to deserve the thanks of Parliament. He was admiral commanding the naval reserves till 1885, commanded the Mediterranean squadron from 1889 till 1891, then First Lord of the Admiralty for two years, at the end of which he retired.

Ingram, Thomas Dunbar, an English jurist, born in 1826; died in Dublin, Ireland, Dec. 30, 1901. He was educated at Queen's College, Belfast, and at London University, and was called to the bar in 1854. He went to India, where he was for some time Professor of Jurisprudence in the Presidency College at Calcutta, and an advocate of the High Court of Judicature of India. He was the author of *Compensation to Land and House Owners* (1864); *Two Letters on some Recent Proceedings of the Indian Government* (1871); *A History of the Legislative Union of England and Ireland* (1887); *Two Chapters of Irish History* (1888); *England and Rome: A History of the Relations between the Papacy and the English State and Church from the Norman Conquest to the Revolution of 1688* (1892); and *A Critical Examination of Irish History* (1900).

Jack, Mrs. Agnes Jane (Nichol), a Scottish novelist, born in Glasgow, Scotland, in 1837; died there in November, 1901. She was the daughter of John Pringle Nichol, for many years Professor of Astronomy in Glasgow University, and a younger sister of the late John Nichol, the well-known Scottish critic. She married William Jack, a professor in the university in which her father and brother were long prominent. Her novels, *Brother and Sister* and *A Passion Flower*, were published anonymously.

Jacobs, Henry, an English clergyman, born in the Isle of Wight in 1824; died in Christ Church, New Zealand, in March, 1901. He was educated at Oxford, and after taking orders in the Established Church was successively curate of Bussage, Gloucestershire, head master of St. Nicholas's School, at Shoreham, and curate of Poplar. He went to New Zealand at the close of 1850, and was master of the newly established grammar school in Christ Church for eleven years. He became Dean of Christ Church in 1866, resigning in 1891. He was the author of a *History of the New Zealand Church* and edited the *New Zealand Church News* for many years.

Jeaffreson, John Cordy, an English author, born in Framlingham, Suffolk, England, Jan. 14, 1831; died in London, Feb. 2, 1901. He was the son of a surgeon, and received his university education at Oxford. After spending some time as a tutor, he studied law and was called to the bar in 1859, but practised his profession slightly if at all. He had begun to write novels soon after taking his university degree, and after becoming popular as a novelist he continued to put forth novels, biographies, and other works at frequent intervals for nearly forty years, besides contributing largely to periodicals. For many years he was inspector of records and documents for her Majesty's Commissions on Historical Manuscripts. His work in fiction includes *Crew Rise* (1854); *Isabel, the Young Wife and the Old Love* (1856); *Miriam Copley* (1859); *Sir Everard's Daughter* (1860); *Olive Blake's Good Work* (1862); *Live it Down: A Story of the Light Levels* (1863); *Not Dead Yet* (1864); *A Noble Woman* (1868); *A Woman in Spite of Herself*

(1871); *Lottie Darling* (1873); *The Rapiers of Regent's Park* (1882); and *Cutting for Partners* (1890). His remaining works are *Novels and Novelists from Elizabeth to Victoria* (1858); *A Book about Doctors* (1860); *Life of Robert Stephenson* (1864); *A Book about Lawyers* (1866); *A Book about the Clergy* (1870); *Annals of Oxford* (1870); *Brides and Bridals* (1872); *A Book about the Table* (1874); *A Young Squire of the Seventeenth Century*, edited (1878); *The Real Lord Byron* (1885); *The Real Shelley* (1885); *Lady Hamilton and Lord Nelson* (1887); *The Queen of Naples and Lord Nelson* (1889); *Victoria, Queen and Empress* (1893); and *A Book of Recollections* (1893).

Jellett, Henry, an Irish clergyman, born in Ireland about 1820; died in Dublin, Dec. 31, 1901. He was graduated at Trinity College, Dublin, in 1842, and took orders in the Irish Episcopal Church in 1844, his ministry being subsequently in the south of Ireland. He was already a canon of St. Patrick's Cathedral, Dublin, when in 1884 he became Archdeacon of Cloyne, and in 1889 he succeeded to the deanery of St. Patrick's. Dean Jellett was prominent in Irish Church affairs, and took an active part in the reorganization of the Church after its disestablishment in 1869. He was a staunch theologian and a most effective preacher. His published works are *The Irish Church and the Articles of 1615* (1850) and *Some Thoughts on the Christian Life* (1884).

Kaizl, Joseph, an Austrian statesman, born in Bohemia in 1854; died in Miskowitz, Aug. 20, 1901. He studied in Strassburg, taught political economy in Prague University while it was German, and became professor when it was converted into a Czech institution. Being a ready and elegant speaker equipped with modern social science and political knowledge, he became prominent in politics, first attaching himself to the Old Czechs, and going over to the Young Czech party like many of his associates when the conflict over languages became earnest. When it became necessary to give a ministerial post to the Czech group Dr. Kaizl, although he had been known as a Socialist of the chair and a Radical, entered the Thun Cabinet as Minister of Finance.

Karl, Alexander, Grand Duke of Saxe-Weimar, born June 24, 1818; died in Weimar, Jan. 5, 1901. He was the youngest child of the hereditary Grand-Duke Karl Friedrich and Maria Paulowna, Grand Duchess of Russia. The golden days of the reign of Karl August passed away during his childhood, but Goethe was still alive and celebrated the birth of the fortunate prince with a poem entitled *Die Künste*, and took particular interest in the early education of Karl August's grandson. The young hereditary, after a long journey in Italy, studied for one year at the University of Leipsic, then at Jena for one year, after which he visited the courts of Berlin, St. Petersburg, Paris, London, and The Hague, and in 1840, having been passed through the subordinate grades, entered the Prussian army as colonel of cuirassiers, and in two years of active service in command of a regiment was advanced to the rank of field-marshal. On Oct. 8, 1842, he married Sophia, Princess of the Netherlands, then eighteen years of age, who bore him three children. The eldest was the hereditary Grand-Duke Karl August, born July 31, 1844, who died Nov. 20, 1894, leaving two sons by Princess Pauline of Saxe-Weimar, his first cousin, whom he married in 1873. Of the daughters of Karl Alexander the elder, Princess Marie, married the Prince of Reuss-Schleiz and the younger, Princess Elisabeth, Duke Johann Albrecht of Mecklenburg, afterward Re-

gent of Mecklenburg-Schwerin. The death in 1900 as the result of a carriage accident of Prince Bernhard Heinrich, the late hereditary grand duke's younger son, left the elder son, Prince Wilhelm Ernst, born June 10, 1876, as his grandfather's only direct male descendant, who was still unmarried when he succeeded him as grand duke. When Karl Alexander succeeded his father on July 8, 1853, he swore to observe the revised Constitution of Oct. 15, 1850. With the assistance of his Minister Watzdorf he saved his principality from casting its lot with Austria in 1866, and in 1870 and 1871 he shared the perils and hardships of the campaign of the German army in France. When the deliberations over the Constitution of the German Empire came to a deadlock in the Federal Council and the German Parliament, he telegraphed on Dec. 7, 1870, to the Weimar delegation in the Federal Council to formulate the measure that solved the question of the imperial prerogative in the constitutional manner laid down in the resolutions of the North German Federal Council and the Reichstag. The Empress Augusta was his sister, and Bismarck was his lifelong friend. In his own principality he promoted communal self-government, the formation of agricultural associations, the extinction of feudal privileges, the construction of a complete railroad network, and the establishment of institutions for the general good, especially the people's schools, for which considerable sums were found in spite of a strict and even parsimonious economy in the state finances, pursued for the purpose of paying off old debts. The system of popular education introduced in 1874 was in its principal features adopted by other German states. The grand duke took a direct interest in the higher schools and in the development of art industry. He cultivated his inherited artistic taste, and from his youth aided and encouraged the patriotic and romantic movement in German art, learning, and literature—the music of Wagner and of Liszt, who was chapel-master of the Weimar court theater; the paintings of Schwind and Böcklin, the literary creations of Hoffmann von Fallersleben, Theodor Storm, and Franz Dingelstedt. The restoration of the Wartburg was the work of his youth, the foundation of the Weimar art school and museum the plan of later years.

Key, Bransby Lewis, an English colonial prelate, born in 1838; died in London, Jan. 12, 1901. He was ordained in 1864, and at once began his labors in the missionary field, having been assigned to the Transkei district in South Africa. After nineteen years spent in this work, he was in 1883 consecrated bishop coadjutor to the bishop of St. John's, Kaffraria. He succeeded to the bishopric in 1886, his jurisdiction extending over the districts of Transkei, Tembuland, Griqualand East, and Pondoland.

Koenig, Rudolf, a German physicist and acoustician; born in Königsberg in 1833; died in Paris, Oct. 2, 1901. In 1860 he was established in Paris as a constructor of acoustical instruments, and here he did his life work. The phonograph or phonautograph of M. Scott de Martinville, for recording the vibrations of tones and words, was brought to Koenig for completion. The idea of using these records for audibly reproducing the words, as was done nearly twenty years afterward by Edison and others, seems never to have occurred to Koenig. He constructed a series of standard tuning-forks, improved the construction of the Seebeck siren, invented the manometric flame, repeated the famous experiments of Philipp Reis with his primitive tele-

phone, and revised a new stethoscope. In 1862 he began the publication of his experimental researches in acoustics, which lasted nearly forty years. In 1876 he exhibited his instruments at the Centennial Exposition in Philadelphia. Among them was a tonometer consisting of 670 tuning-forks. In 1882 he reconstructed and enlarged this, extending the lower forks down to a vibrative frequency of only 16, and the upper ones beyond the superior limits of audition. The fact that Koenig was a practical acoustician and earned his livelihood in his shop prevented the general recognition of his great talents as an original investigator. The only official recognition his work ever did receive came from the Physical Society of London, which made him an honorary fellow in February, 1901. In 1882, under the title *Quelques Experiences d'acoustique*, he published a volume describing his acoustical researches. A paper published in Poggendorff's *Annalen*, in 1876, on the phenomena produced by the interference of two tones, is one of the classics of science, and is perhaps his most important contribution to pure science.

Kruger, Susanna Du Plessis, wife of the President of the South African Republic, died in Pretoria, July 20, 1901. She was the second wife of Paul Kruger, the niece of his first wife. Her family, which was the same as that of Armand du Plessis, Cardinal Richelieu, has numerous branches in South Africa. She was married at the age of sixteen, and bore her husband 16 children, of whom 10 were living at the time of her death. Tante Sanna, as she was universally called, was known throughout South Africa, although she concerned herself about neither politics nor society, and kept up the simple habits of a frugal and laborious farmer's wife after her husband had become a wealthy man and President of the republic, attending to the washing and other housework in black gown and sunbonnet, with sleeves rolled up. She drove sharp bargains in selling the tobacco grown on their estate in the Magaliesberg. She knit all her husband's stockings and made his coats after the pattern of one that a tailor cut for him after the battle of Majuba Hill. When a visitor found the pair sitting on the veranda the President presented him to Mevrouw Kruger, who immediately arose and with a courtesy retired into the house, where she could be heard chiding the Kaffir servants. Cooking, mending, and making coffee were her daily occupations. She was a woman of great kindness of heart, and while Kruger was very stingy she often gave in secret out of her niggardly allowance for household expenses. Whoever came to the house at any hour of the day was served with coffee. When Kruger had departed for Europe and the British occupied Pretoria, Lord Roberts placed a guard in front of the house to protect her from annoyance, and she prepared coffee daily for the sentries and made them cakes.

Lewis, John Travers, a Canadian prelate, born in Cork, Ireland, in 1825; died at sea, May 6, 1901. His father was an Anglican clergyman. The son was graduated with high honors at Trinity College, Dublin, in 1848, took orders, and in 1850 went to Canada, where his mother was living; was a missionary at West Hawkesbury till 1854, then rector of Brockville. In 1862 he was consecrated at Kingston as the first Bishop of Ontario. In 1893, a synod held in Toronto having resolved that the Canadian Church should be divided into two provinces, Dr. Lewis was made Archbishop of Ontario and Metropolitan of Canada, while to Bishop Machray were given the

titles of Archbishop of Rupertsland and Primate of all Canada. In the beginning of 1900 Dr. Lewis resigned his episcopal office.

Lissagaray, M., a French journalist, born in Auch in 1838; died in Paris, Jan. 25, 1901. He lived for several years in the United States in his early life, returning in 1864 to Paris, where he lectured and wrote for the press and was a Republican in politics. He was challenged by Paul de Cassagnac for attacking the empire, and was wounded in a duel. During the Commune he published the *Action* newspaper, and when the Commune fell he fled to London, where he subsisted miserably by giving lessons and writing letters to newspapers. He wrote a history of the Commune which was printed in Brussels. After the amnesty of 1880 he returned to France and started the *Bataille* newspaper, in which he inveighed against Gen. Boulanger, leading to a duel with Henri Rochefort.

MacCormac, Sir William, surgeon, born in Belfast, Ireland, Jan. 17, 1836; died in Bath, England, Dec. 4, 1901. He was the eldest son of Dr. Henry MacCormac, a practitioner of Belfast and a professor in the Belfast Institute. In 1856 he was graduated at the Queen's University of Ireland, and in 1864 became a fellow of the Royal College of Surgeons of Ireland. In the same year he was elected surgeon to the Royal Belfast Hospital. He subsequently became a member of the senate of Queen's University, and received its gold medal. He received honors from the University of Dublin. In 1871 he was admitted *ad eundem* a fellow of the Royal College of Surgeons of England. In 1881 he was knighted as a recognition of his services in connection with the International Medical Congress. In 1897 he was created a baronet, and appointed surgeon-in-ordinary to the then Prince of Wales. In 1898 he received from Queen Victoria the knighthood of the Royal Victorian order in recognition of his services to the Prince of Wales. In 1901 he received the knighthood of the Bath. He also held many foreign honors. He was president of the Royal College of Surgeons in England five years. He led a life of great activity, participating in the Franco-Prussian War in 1870; in the Turko-Servian War of 1876, where he was associated in the Anglo-American ambulance corps with Dr. Marion Sims, of New York; and in the Boer War in 1899. He was surgeon to St. Thomas's Hospital in London for a number of years, and was an examiner for the Royal College of Surgeons of England, and also for the University of London. His early life abroad had made him an accomplished linguist. His successful management of the International Medical Congress, which he organized, was largely due to the friendships and knowledge gained during his student years on the Continent. He was a contributor to the medical journals, but left only a few completed volumes. Work Under the Red Cross was abstracted from his diary during the Franco-Prussian War. In 1879 he was instrumental in starting a debate regarding the then comparatively new antiseptic surgery. He subsequently combined the addresses and discussions of this congress with a general chapter on the antiseptic theory, and published them in book form. In 1895 he published the first section of an extensive treatise upon Surgical Operations. He, however, never finished the remaining sections. He was a very successful teacher and was much beloved by his students.

McKenzie, Sir John, a New Zealand statesman, born in Ardross, Scotland, in 1838; died in Wellington, Aug. 6, 1901. He emigrated to New Zealand in 1860, took employment in Otago prov-

ince, became working manager of a station near Palmerston, and afterward carried on farming on his own account in the Shag valley. He was a candidate for the Otago Council in 1868, and in 1871 he was elected, and represented Waihemo until the provinces were abolished. He was elected to the New Zealand House of Representatives for Moeraki in 1881, and in later years for other constituencies in his section of the country, never being without a seat. He was appointed Minister of Lands and Immigration in 1891 in the Ballance ministry.

Maclagan, Christian, a Scottish archeologist, died May 10, 1901, at the age of ninety. She had long been lady associate of the Society of Antiquaries of Scotland. In her opinion, the Druid circles, so called, were the skeleton uprights of prehistoric forts, and in her antiquarian enthusiasm she had taken rubbings of most of the engraved stones of Scotland. These rubbings have now become extremely valuable, as many of the inscriptions on the stones have since been worn away. Miss Maclagan published *The Hill Forts, Stone Circles, and Other Structural Remains of Ancient Scotland* (1875); and *Chips from Old Stones* (1881).

Macpherson, Hugh Alexander, a Scottish clergyman, born in 1848; died at Pitlochry, Nov. 26, 1901. He was educated at Oxford, and was ordained to the Anglican ministry in 1882. After being successively curate of St. James, Carlisle, 1882-'85; St. John's, Upper Holloway; and Holy Trinity, Paddington, he was appointed chaplain to the Government prison at Carlisle, 1888-'96. From 1896 to 1899 he was vicar of Allonby, Cumberland, and from 1899 incumbent of Pitlochry. He was a naturalist of note, and besides publishing *A Vertebrate Fauna of Lakeland*, including Cumberland and Westmoreland, with Lancashire North of the Sands (1892) and *A History of Fowling* (1897), contributed natural history chapters to the volumes of the *Fur and Feathers Series*—viz., *The Partridge* (1893); *The Grouse* (1894); *The Pheasant* (1895); *The Red Deer* (1896).

Madan, Henry George, an English scientist, born Sept. 6, 1838; died in Gloucester, Dec. 22, 1901. He was educated at Oxford, and for twenty years was head of the science department of Eton College. Subsequently he was junior bursar of Queen's College, Oxford. He was the author of *Exercises in Practical Chemistry*, with A. G. V. Harcourt; *Tables of Qualitative Analysis* (1881); *Wilson's Inorganic Chemistry*, revised and enlarged (1883); *Lessons in Elementary Dynamics* (1886); and *Elementary Treatise on Heat* (1889).

Manuel, Eugène, a French poet, born in 1823; died in Paris, June 2, 1901. He entered at an early age the Normal School, became professor at Dijon after completing his studies, and afterward at Grenoble and at Jouy. In 1852 he published an edition of the lyrical works of Jean Jacques Rousseau. In 1860 he published a book of poems called *Pages Intimes*, which by their simple grace and touching sentiment won their way to the hearts of hosts of readers. Jules Simon called him into the Ministry of Education, in which he remained till his death, rising to be Inspector-General of Education. He published *Poèmes Populaires* in 1871, and his *Henri Regnault, Pigeons de la République, Pendant la Guerre, and L'Absent* made him the most popular poet in France. For the stage he wrote *Les Ouvriers*, which is in the repertoire of the Comédie Française.

Mathews, Sir Lloyd William, a British administrator, born in 1850; died in Zanzibar, Oct. 11, 1901. He entered the British navy at an early

age, served in the Ashanti war of 1873, and afterward was employed in capturing Arab dhows carrying slaves from the east coast of Africa to Arabia. In 1883 he entered the service of the Sultan of Zanzibar, who made him his general. He raised and equipped 1,000 regular and 5,000 irregular soldiers, and ultimately obtained control over the civil as well as the military administration. When Great Britain assumed a protectorate over Zanzibar in 1890 Gen. Mathews was appointed British consul-general, but gave up the post to another, while he became the real ruler of the country with the title of Prime Minister, and thoroughly reorganized and Anglicized the administration, of which the Sultan was deprived of control.

Mapleson, James Henry, an English operatic impresario, born in London, May 4, 1830; died in that city, Nov. 14, 1901. Col. Mapleson was wont to say that he made his theatrical debut at the age of two months, when for three weeks he appeared as the infant in Henry VIII in the company with Edmund Kean. He began his education in music as a student in the Royal Academy of Music in London. He made an unsuccessful attempt as a singer, and then for a time played the viola in an orchestra. Subsequently he organized concert companies, with which he made extended tours throughout Great Britain. In 1861 he became sole manager of the Lyceum Theater, London, and opened it, June 8, with a performance of *Il Trovatore*, with Tietjens and Alboni in the cast. In 1862 he began his famous career as the manager of Her Majesty's Theater, when, with a company of famous singers, he produced Italian and French operas seven seasons, after which the theater was burned. In 1871 he took the Drury Lane Theater in partnership with the elder Gye, with whom he remained about two years, returning to the new building called Her Majesty's Theater, in 1877, as sole manager. In 1878 he brought an opera company to America, opening at the Academy of Music, New York, Oct. 16, with *La Traviata*. After this he came to America for several seasons, bringing such great singers as Patti, Nilsson, Gerster, Campanini, Del Puente, Minnie Hauck, Galassi, and Mme. Sealehi, and introducing many operas new to American audiences. In 1885, however, Col. Mapleson found his enterprise overshadowed by the new German company, presenting Wagner's operas at the Metropolitan Opera House, New York, and he returned to England at the close of that season. He gave concerts in the British provinces for a few months, and in 1888 he had one season of opera at Covent Garden Theater, London. In 1896 he came again to New York, and closed his career as an impresario with a series of performances in Italian by the New Imperial Opera Company, which he had formed in Italy. After a few appearances in New York and Boston the company disbanded, and he returned to England, where, during the few years before his death, he organized small concert companies from time to time, with which he toured the English provinces. His military title was due to the fact that at one time he commanded a London volunteer regiment.

Milan, ex-King of Serbia, born in Jassy in 1854; died in Vienna, Feb. 11, 1901. Milano Obrenovich was the nephew and adopted son and heir of Prince Michael, and after the assassination of the latter in 1868 he was called by the Skupshtina to succeed him as reigning Prince of Serbia. The Council of Regency which managed the public business during his minority took care to preserve the internal peace and to seek a pacific

solution of the questions pending between the principality and Turkey. Milan meanwhile pursued his studies at the Lyceum of Louis le Grand in France, where he imbibed Liberal principles. He was declared of age in 1872, and began his active reign by appointing a Cabinet of pronounced Liberal tendencies, in which Blaznavatz was president of the Council, and Ristich, a partizan of an alliance with Russia, was Minister of Foreign Affairs. Milan, who received many proofs of the sympathy of the Russian Cabinet in the quarrels of Servia with the Porte, made journeys to Vienna and Paris in the hope of obtaining from the powers the suppression of Turkish suzerainty, leaving Servia perfectly independent. A year after his marriage to Natalie Kechko, daughter of a Russian officer, he offered open defiance to Turkey, taking his directions from St. Petersburg. On July 3, 1876, the Servian troops passed the Turkish frontier, but they were disgracefully beaten in the first encounters. Gen. Tcherniaeff, the commander-in-chief, defeated at Bjelina, retreated upon Alexinatz. Milan hastily reorganized his army, but the second stage of the war was still more disastrous. After the lost battle of Alexinatz, Prince Milan had to listen to the pacific counsel of the powers and conclude a truce with Turkey. The Servians took advantage of the armistice to reorganize, and soon renewed hostilities. A succession of fresh defeats compelled Milan to negotiate directly with Turkey. Peace was concluded at Constantinople in March, 1877. The Russians intervened on behalf of the Bulgarians, obtaining the necessary aid of the Roumanians, whose territory they had to pass through, and the cooperation of the Montenegrins also. After defeating the Turkish army and concluding the peace of San Stefano, Russia was constrained to bow to the will of Europe and consent to the Berlin Congress, which drew up new terms of peace. Milan assumed the title of Sovereign Prince on March 3, 1878, and the independence of Servia, stipulated in the treaty of San Stefano, was confirmed by the treaty of Berlin. The Prince who was always defeated was proclaimed King of Servia by act of the Skupshtina on March 6, 1882. In 1885 he intervened in the Roumelian revolution, and the Servian army, under his personal command, was beaten by the Bulgarians at Tsaribrod and Dragoman. The interference of Austria-Hungary, which threatened armed intervention if the Bulgarians refused to grant an armistice, saved Milan this time from the consequences of his military disasters. In 1886, when the European concert called upon Servia, Greece, and Bulgaria to disarm and henceforth cease to endanger the peace of the world by the incessant agitation of the Balkan States, King Milan at first refused to comply with the wishes of the powers, as he had the entire Radical party of Servia at his back. A second collective note caused him to reflect, and in March he issued orders for demobilization. This was the epoch when the conflict between Russian and Austrian influence at Belgrade became acute, and Ristich and Garashanin, the respective advocates of the rival policies, took turns in the premiership. The financial and economic situation of the country suffered greatly from these sudden changes until King Milan, who in the beginning of his reign was a popular ruler, incurred the strong dislike of the majority of his subjects. Contempt and shame were felt, too, by many Servians when a vulgar domestic quarrel broke out between the King and Queen Natalie, which culminated in a divorce. The political sympathy of the Queen for Russia during the time when the King veered

around to an Austrophile policy had something to do with the estrangement, the private misconduct of Milan much more. While Natalie made an official visit to the court of St. Petersburg, the King took a political journey to Vienna, where the Emperor of Austria counseled him to seek a reconciliation with the Queen. The affair was apparently settled when suddenly, while Queen Natalie was in Wiesbaden, toward the middle of 1888, the King gave her public notice not to return to Serbia. At this time he flouted the majority of the Skupshtina, which opposed his plans for reorganizing the army. The scandal of the divorce filled the measure of his unpopularity. Queen Natalie had Prince Alexander with her at Wiesbaden, and when she received the decree of banishment she refused to be separated from her son, but by the aid of the law he was torn from her arms. Milan demanded a divorce from the Servian synod, although the bishops unanimously asserted that the synod was incompetent to pronounce the decree. The King thereupon removed the bishops and appointed a metropolitan who was willing to serve him in the matter. By this proceeding he destroyed all vestiges of prestige and respect that remained for him. He tried to break the force of the coming storm by further arbitrary expedients. When the elections resulted in an overwhelming victory for the Radicals he simply annulled them. The situation grew more critical, and on March 6, 1889, he abdicated in favor of his son Alexander, reserving for himself the regency during the minority of the new King. He scarcely attempted to exercise his rights, plunged deeper than ever into the pleasures and dissipations of Parisian life, and in 1892 renounced the regency, as he had before resigned the throne, in consideration of a sum of money voted by the Skupshtina. The Servian people to be rid of him gave him 3,000,000 francs. When this money was gone he returned to Serbia repeatedly and asserted the strong influence that he possessed over his son. Each time, with menaces and bribes combined, the Servians induced him to return to his exile. In 1898, King Alexander, having by his father's incitement, on April 13, 1893, dismissed the regents and taken up the reins of authority, recalled him and appointed him generalissimo of the Servian army. When he abdicated the throne, on Sept. 30, 1891, he renounced his titles, rank, and Servian nationality. From 1892 he was known as Count of Takovo, but after his return to Serbia he took again the name of King Milan. His divorce had been annulled, and on March 7, 1893, he was formally reconciled with his wife. His return to Belgrade and assumption of the chief command of the active army and his reassertion of a tutelage over his son caused fresh political storms. In order to avert revolution or civil war he made the Knezevich plot the pretext for imprisoning and condemning to jail or exile every politician who combated his influence. The effects of these violent proceedings opened the eyes of King Alexander at last, and he took a course similar to that which Milan had employed with Queen Natalie. While his father was sojourning abroad the young King took the occasion to announce officially his approaching marriage to the widow Draga Machin. This drew from the ex-King the expected vehement protest, upon which King Alexander simply deprived him of his rank of generalissimo and forbade him ever to reenter Servian territory. The banished King, after his fresh disgrace, began to intrigue against his son and to organize plots with the object of regaining the Crown for himself, counting on the aid of some

of the military officers who still remained faithful to him and on the support of Austria, since Alexander after his marriage had fallen under Russian influence. His unexpected death was the result of an attack of influenza which was epidemic in Vienna. Milan was the son of Miloch Yephremovich and grandnephew of Miloch, the first hereditary Prince of Serbia, who took the name of Obrenovich from his mother's first husband, was a farmer and breeder of hogs before he took the lead in the rebellion against Turkey, was recognized as Prince by the Sublime Porte in 1830, having been elected by the National Assembly in 1817, abdicated in 1839, was restored to the throne in 1858, the Karageorgevich family having reigned in the interval, and died in 1860.

Miquel, Johannes von, a German statesman, born in Neuenhaus, Hanover, Feb. 19, 1829; died in Frankfurt-on-the-Main, Sept. 8, 1901. He came from a family of French *émigrés*. He studied law at Heidelberg and Göttingen, and in the revolutionary movement of 1848 he was an ardent revolutionist of extreme views, an atheist, and a Socialist, who proposed to lead a peasant's revolt. As soon as Germany was reduced to something like the old order under the old rulers, who had the military, when he saw that the path to greatness through revolution was closed, if he did not forget his Marxist ideals, he hid them in his mind, and studied the means of entering political life under the conditions that he found. While practising law he was studying politics, and when struggling for bread he aimed to be minister. He was elected to the Hanoverian Diet first in 1864, after having won a high reputation as an advocate in Göttingen. As Bürgermeister of Osabrück in 1865 he exhibited remarkable administrative ability. In the Hanoverian Diet he made himself a master of finance, and his disclosures of the mismanagement under the Guelphs spread his fame throughout Germany. All Germany was the sphere of his political hopes and plans. With Bennigsen he founded the National German Union which set forth the means and conditions of accomplishing the unification of Germany. Their program was accepted by the practical politicians of all the states, so that when Prussia annexed Hanover it was said that Hanover had annexed Prussia. His parliamentary and political reputation was already established when he entered the Prussian Chamber, and his services in having smoothed the way for the incorporation of Hanover gave him a position of importance in the Diet and afterward in the Reichstag, which he turned to good account. He was one of the most loyal and useful of Bismarck's lieutenants, carrying a doubtful vote oftentimes by his facts, arguments, and eloquent appeals. He was chairman of the Committee on the Reform and Unification of Judicial Procedure, and this great work was in a great measure his. In 1869 the Berlin Discontogesellschaft engaged him as legal director, but after four years he gave up the position in order to devote himself entirely to legislative labors. In 1882 he accepted the office of head Bürgermeister of Frankfurt, and for eight years he administered the affairs of that city to the satisfaction even of the burghers who were bitterly opposed to him in politics. The post made him *ex officio* a member of the Prussian House of Lords, in which he gave serviceable aid to Prince Bismarck in bringing to an end the Kulturkampf. In 1884 he pressed upon the National Liberals a program involving a compromise with political and economic theories with a view to their coming into office by absorbing the Moderates of other parties. His plan was successful,

and yet its author was repudiated as a leader. The young Kaiser, however, needed a man to counterbalance the influence of the Conservatives and to stand before the country as a pledge that no purely reactionary policy would be followed. Therefore Miquel was appointed Prussian Minister of Finance, and was known throughout Germany as the Kaiser's man. Finance was his own peculiar branch, and in Prussia there was a peculiar opportunity to display both his constructive ability and his political adroitness. His management of the finances was remarkably able, sound, and safe, and in proportion as it preserved and enlarged the pecuniary resources of the Government his own political power and authority increased. His planned reforms were far more original and important, and of such magnitude that he was able to accomplish only a small part of the task he set before himself. He endeavored to make the imperial treasury independent of the finances of the individual states, but the increase of the bourse tax and some new stamp duties were all the new resources he succeeded in unlocking, as he encountered the opposition of the Center. In reforming the Prussian system of taxation he was more successful, but only by adapting his plans to the demands of the Agrarians, and in becoming their instrument he sought to make them the instrument for his elevation to the chancellorship. The direct income tax was made more productive by imposing on taxpayers the responsibility of assessing their own incomes, by making the rate of progression much steeper, and by imposing an additional tax on incomes from investments. Communal taxes were readjusted for the relief of overtaxed communities, and the taxes on land, buildings, and trades were surrendered for the benefit of all, the trade tax being altered to the advantage of small industries. For completing the railroad network and for mines, canals, and all reproductive works and public improvements from which he could calculate a future increase of revenue, Miquel could find any amount of money; to all proposals for temporary relief or for increasing current expenses he was obdurate, saying, when the surplus mounted up, that he must be ready for lean years to come. He would not give doles even to the Agrarians, although the political subservience to them of the old National Liberal leader, and to the Conservatives in their educational and general reactionary policy, and to the Kaiser in all his whims, furnished a curious example of political opportunism. In abandoning his convictions he abandoned also his prudent self-restraint and practical sagacity. He grasped at the reward for so great a sacrifice, and by his sly intrigues to upset Caprivi, Hohenzollern, and Bülow, his ambition growing more restless and reckless with each disappointment, he plunged the Government into chaos, lost his control over the Prussian Chamber when he tried to force through the Elbe Canal bill to please the Emperor, or perhaps only pretended to try. After the third rejection of this measure, which he probably as a financier inwardly condemned, he had to lay down his office only three months before his death.

Monkhouse, Harry (real name, John Adolph Mekie), English actor, born in Newcastle-on-Tyne, March 17, 1854; died in London, Dec. 18, 1901. He made his first appearance at Blyth, England, in October, 1871, at Tyne's Theater. After four years' experience on the provincial circuits he made his London debut at the Elephant and Castle, where he remained until the theater was burned, three years later. After brief engagements at the Victoria and the Marylebone

Theaters, he went to the Grecian Theater, where he played low-comedy rôles for three years. His next important engagement was at the Gaiety Theater, Nov. 1, 1882, in *More than Ever*; after which he acted in *Fra Diavolo*, also in *Blackboard* and in *Ariel*. He then became the star in a highly successful play called *Larks*, which ran for three years. In 1888 Mr. Monkhouse leased the Tyne Theater, Newcastle, and played there for three months in a repertoire of Dion Boucicault's Irish dramas. He then returned to London and became a member of Carl Rosa's Opera Company, opening at the Prince of Wales's Theater, Jan. 12, 1889, in the opera of Paul Jones, in which Mr. Monkhouse made a great hit as Bouilleteise. He afterward scored another notable success in *The Rose and the Ring*, in 1890, at the Prince of Wales's Theater, under the management of Horace Ledger; after which, under the same management, he played important rôles in *Maid Marian*, *La Cigale*, *Poor Jonathan*, *The Mountebanks*, and *The Magic Ring*. In 1893 he was engaged by George Edwardes to play Dr. Brierly in *A Gaiety Girl* at the Prince of Wales's Theater, and his success in that rôle was so pronounced that his services were secured for the American tour of that popular musical comedy. He appeared in New York at Daly's Theater, Sept. 18, 1894, and became a favorite with metropolitan theatergoers. When the Edwardes company returned to England in the spring of 1895, Mr. Monkhouse assumed the leading rôles in *The Shop Girl*, *An Artist's Model*, and *The Geisha*. After this he leased the Art Theater, at Newcastle, for a time, and then appeared again in London in *The Circus Girl* and *A Runaway Girl*. These engagements were followed by another tour in *Larks*, his early triumph, and an appearance in the pantomime *Cinderella*, at Manchester. He then rejoined the Edwardes company, to play *Hooker Pasha* in *A Messenger Boy*, and the *King of Illyria* in *Kitty Grey*. His last appearance was in *Florodora*, in which he played Anthony Tweedlepunch. Mr. Monkhouse was the author of several bright comedies and sketches; he also wrote the libretto of a comic opera, *La Rosière*, produced at the Shaftesbury Theater in 1893. His last work was a pantomime arranged for Paul Martinetti. He was one of the greatest favorites of the modern English stage and was equally popular in private life; he had a commanding presence and a fine voice, and was a celebrated *raconteur*.

Monkhouse, William Cosmo, an English author, born in 1840; died in Skegness, Lincolnshire, England, July 20, 1901. He was educated at St. Paul's School, London, and in 1857 entered the Board of Trade Office as a junior clerk, remaining in the service of that institution until his death, at which time he had been for several years a secretary in the financial department. Among the minor English poets of the Victorian era he occupied an honored place, and he won some prominence as an art critic. Besides contributing 137 articles to the *Dictionary of National Biography*, practically covering the whole field of English art, he published *A Question of Honor*, a novel (1868); *Masterpieces of English Art* (1868); *The Works of John Henry Foley* (1875); *Sir Charles Eastlake* (1877); *Sketches by Sir Edwin Landseer, with a History of his Art Life* (1877); *Key to Exercises in the Précis Book* (1877); *Turner, in the Great Artist Series* (1879); *The Italian Pre-Raphaelites* (1887); *The Earlier English Water-Color Painters* (1890); *Leigh Hunt, in Great Writers Series* (1893); *In the National Gallery* (1895); *British Contem-*

porary Artists (1899); and the following volumes of verse: *A Dream of Idleness* (1865); *Corn and Poppies* (1890); *The Christ upon the Hill* (1895). He will be best remembered for his services to art.

Moreau de Tours, Georges, a French painter, born in Ivry, in 1848; died in Bois le Roi, Jan. 17, 1901. He was a pupil of Marquerie and Cabanel in the *École des Beaux Arts*, became a member of the Society of French Artists, and obtained his second medal in 1879. The majority of his works have been purchased by the French Government, among them *Le Drapeau*, in the *Élysée*, and the *Death of Vaneau*, in the *École Polytechnique*. Some of his best-known canvases are *L'Extatique*, *Death of Pichegru*, *Departure of the Conscript*, *Le Cabaret*, and *Evocation*.

Morris, Michael, Baron of Killanin, an Irish jurist, born in Galway, Nov. 14, 1827; died there, Sept. 8, 1901. He was descended from an ancient Irish family, was educated in Trinity College, Dublin, graduating with honor in 1847, called to the bar in 1849, made a Queen's counsel in 1863, elected to Parliament as a Conservative in 1865, appointed Solicitor-General for Ireland by Lord Derby in 1866, becoming Attorney-General a few months later, and made a puisne judge in 1867, Chief Justice of Common Pleas in 1876; and Lord Chief Justice of Ireland in 1887. He was created a baronet in 1885, and received a hereditary peerage on retiring from the bench in 1900. His advancement was due to his being a Catholic and to his popularity in Galway, to which his genial humor and ready wit contributed, rather than to his political or his legal ability.

Myers, Frederic William Henry, an English author, born in Duffield, Derbyshire, Feb. 6, 1843; died in Rome, Italy, Jan. 17, 1901. He was the son of the Rev. Frederic Myers, a writer of note, and received his education at Cambridge. He was classical lecturer at Trinity in 1865-'69, and held the post of school inspector from 1872 until his death. He was one of the founders in 1882 of the Society for Physical Research, which aimed to collect evidence and to carry on systematic experiments in hypnotism, thought transference, and clairvoyance, and he contributed a long series of papers on the Subliminal Self to the Proceedings of the society. At the time of his death he was president of the society and had been its honorary secretary for a long period. His writings in book form include *Saint Paul*, a poem (1867); *Poems* (1870); *Wordsworth*, in *English Men of Letters Series* (1880); *The Renewal of Youth and Other Poems* (1882); *Essays Classical* (1883); *Essays Modern* (1883); *Science and a Future Life* (1893); *Human Personality and its Survival of Bodily Death* (1901). With E. Gurney and F. Podmore he published *Phantasms of the Living*, in 1886. Myers's essays display much literary strength as well as a finished style, and he is worthy of remembrance as a poet also.

Nordenskiöld, Baron Adolf Erik, explorer and cartographer, born in Helsingfors, Finland, Nov. 18, 1832; died Aug. 12, 1901. His ancestors came originally from Sweden, several of them being noted for their scientific work. His father, Nils Gustav, was an accomplished mineralogist, and in 1824 became head of the Mining Office in Finland. His early education was conducted by private tuition. He was then sent to a gymnasium, to prepare for the university, where, in the rector's words, he distinguished himself "only by absolute idleness." He, however, entered the University of Helsingfors in 1849, where he gave special attention to chemical and mineralogical work. He spent his vacations in geological excursions, and in 1853 visited the Ural mountains

with his father. He had obtained salaried appointments at both the University and the Mining Office; but he aroused the suspicion of the Russian authorities, and these were suddenly withdrawn. He now went to Berlin and worked in Rose's laboratory at mineral analysis.

Next year he returned to Finland and obtained the Alexander traveling stipend of the Helsingfors University. At a university meeting where he was to have received his doctor's degree before setting out on his travels he again incurred the suspicion of the Russian officials, and was forced to leave the country. He settled in Stockholm in the winter of 1857-'58, and although the prohibition to visit Finland was eventually withdrawn he continued to live in Sweden. In the spring of 1858 he accompanied the first expedition of the Swedish geologist, Otto Torell, to Spitzbergen, which proved very successful, and returned with much important scientific material. At Bell Sound, Nordenskiöld discovered the remains of several tertiary plants, whose study led to important new conclusions regarding the early climatic conditions of the region. Upon the return of the expedition Nordenskiöld was made professor and curator of the mineralogical department of the Swedish Riksmuseum. In 1861 he accompanied Torell's second Spitzbergen expedition, which also brought back material of great scientific importance. In 1864, at the request of the Swedish Academy, he took command of an expedition for testing the practicability of the measurement of an arc of the meridian, as suggested by the president of the Royal Society of London. Much valuable botanical and zoological material was obtained during this voyage; but, although an attempt was made to reach a high northern latitude, it was not successful. In 1867 the iron steamer *Sofia* was placed at Nordenskiöld's disposal, and in her he subsequently attained a latitude of 81° 42' N., the most northerly point that at that time had been reached in the eastern hemisphere. In 1870 he was able, through the munificence of Oscar Dickson, to begin the organization of a large expedition to Greenland. He set out during this year on a preliminary exploration. The vast inland ice-sheet of Greenland was for the first time trodden by a scientific observer; and its scanty vegetation of algæ was described by Dr. Berggren. The second and main expedition did not start until 1872. It was unexpectedly caught in the ice, with several walrus sloops, and its store of provisions was used up in feeding their inmates. In 1875 Mr. Dickson furnished the money for an expedition up the Yenesei river to Yeniseisk. This and several subsequent expeditions to neighboring regions finally led to the inauguration of the most important geographical work with which Nordenskiöld's name is connected—the voyage of the *Vega*, which accomplished the northeast passage. The *Vega* left Karlskrona on June 22, 1878, doubled the most northerly point



of the Old World, Cape Chelyuskin, in the following August, and approached within 100 miles of Bering strait, where she was frozen in the ice in September, and forced to winter in the arctic. The voyage was successfully continued during the following summer, and on Sept. 2, 1879, Nordenskiöld dropped anchor at Yokohama, and announced to the world that the dream of hundreds of daring explorers during three centuries was an accomplished fact. Nordenskiöld's last expedition was that to Greenland in 1883. During his later years he devoted much attention to the early history of cartography and published two large works on the subject.

Nyssens, Albert, a Belgian statesman, born in Ypern, June 20, 1855; died in Brussels, Aug. 21, 1901. He studied law in Ghent, Paris, and Bologna, and made a reputation by his works on jurisprudence. In 1881 he founded an association for proportional electoral representation. He was appointed Professor of Commercial and Fiscal Law at the University of Louvain in the same year. In 1892 the town sent him to the Chamber, where he had an important share in revising the state Constitution. When the parties could not agree in 1893 on the electoral law, and the working men went on a general strike as a demonstration in favor of universal suffrage, he proposed his own system of proportional representation, and it was adopted as a compromise by an almost unanimous vote. People nicknamed him Father Plural after that because it introduced plural voting for heads of families and men of education or of property. From May 23, 1897, till Jan. 24, 1899, he was Minister of Commerce and Labor. He proposed a law for the protection of working men modeled on the German act, which was defeated by the Clericals, driving him from office. He returned to his chair in the university and continued in speech and writing to influence public opinion on burning political questions, being a Liberal of the school of Beernaert, although he had held office in a Clerical Cabinet. His death was the act of his own hand.

Oliver, Edward Emmerson, an English civil engineer, born in 1843; died in Boscombe, Hampshire, Nov. 24, 1901. He entered the East Indian public works department in 1868, becoming assistant secretary to the Punjab Government in that department in 1883, and was later transferred to a similar post in the Central Provinces, soon becoming chief secretary, and retiring in 1899. He wrote *Reh Swamp and Drainage*; *The Decline of the Samanis and the Rise of the Ghaznaris*; *Coal and Iron in the Punjab*; *The Chagatai Mughals*; *The Safaris in Persia*; *Coins of Akbar in Karegra*; *Coins of the Mohammedan Kings of Gujrat*; *Across the Border, or Pathan and Baluch* (1890).

Orleans, Prince Henry of, born in Ham, England, Oct. 6, 1867; died in Saigon, Indo-China, Aug. 9, 1901. He was the elder son of the Duc de Chartres, the second son of the Count of Paris, son and heir of Louis Philippe, King of the French. In July, 1883, he started out with Gabriel Bonvalot, the explorer, and journeyed through Siberia and Tibet to Tonquin, earning the medal of the French Geographical Society. He was about to enter the military college of St. Cyr, when he was excluded by the law of 1886 against pretenders. In September, 1887, he went to India, joined the Duke of Orleans, his uncle, in a tiger hunt in Nepal, and visited Bombay, Agra, Delhi, Lahore, Afghanistan, Calcutta, Madras, Ceylon, and subsequently Japan. In 1891 he went to Abyssinia, making the first map of Harrar; then visited China, and made explo-

rations in Tonquin, Laos, and Siam, bringing back collections which were exhibited in Paris. In 1894 he made a journey to Madagascar, and afterward proceeded to Saigon, from where he made excursions into Yunnan and Tibet, exploring the upper Irrawaddy and discovering its source, not returning to France till February, 1896. In 1897 he revisited Abyssinia, and on his return the Count of Turin went to France to demand satisfaction in the name of the Italian army, officers of which who were in captivity in Abyssinia Prince Henry had disparaged. The two princes fought a duel, in which both were wounded. He revisited Abyssinia again in 1898. His visits to that country had political aims. He cooperated with the Russian Leontieff, with whom he had a difference later, and he quarreled with M. Bonvalot because the latter, holding official relations with the French Government, would not join him in an attempt to push forward to the Nile to meet the Marchand expedition from the Congo. Prince Henry in all the recent phases of Anglo-French colonial disputes and rivalry was one of the most ardent and extreme defenders of French claims, and by his active participation in forwarding French pretensions and his zeal in advocating them and in pointing out objects of colonial ambition and the means of attaining them in communications to the press, illumined by knowledge he had gained on the spot as an explorer, he gave more offense than any other writer or politician to the English, who accused him of ingratitude toward the country that had extended hospitality to his family in its exile. In the Siamese troubles and the discussion over a buffer state between Burma and Indo-China his elucidations were most intelligent. The French Government entrusted him with no missions and treated his activity with studied indifference, because his political ambition was apparent, but rewarded his services with the cross of the Legion of Honor. He declared his acceptance of the republic if the French people in the exercise of their sovereign right chose definitely that form of government. The renown and popularity that he won as a patriotic explorer placed him in the position of a rival to his cousin, the Duke of Orleans, in whom the Legitimist and Orleanist claims are now united. Prince Henry did not aim to be King, but could not conceal his hopes of advancing to greatness through a popular movement, perhaps of becoming a plebiscitary President. His relations with the Nationalists and his conduct throughout the Dreyfus affair betrayed his ambition, however adroitly he sought to conceal it, and so did his manifestations of sympathy with the Boers in their war with England. When the troubles in China occurred he begged President Loubet to allow him to accompany the French expedition in a civil capacity since as a member of a dynastic family he was precluded from serving in the army or navy. His request was not granted. In March, 1901, he went to Anam, and in journeying in the interior was seized with a tropical malady to which he eventually succumbed. He published an account of his great journey through Tibet under the title *De Paris au Tonkin à travers le Tibet inconnu*.

Ormerod, Eleanor A., an English entomologist, born in Gloucestershire, May 11, 1828; died in St. Albans, July 19, 1901. She was the daughter of a genealogist and country gentleman. From childhood she had a passion for observing insect life, and when her father grew old and left to her the care of his land she acquired a practical knowledge of agriculture. She took up

the special subject of agricultural entomology, got the farmers and laborers of the estate interested in helping her to collect specimens of injurious insects and of their mischievous work, learned what they could tell her of the subject as well as what was recorded in books, and when the Royal Horticultural Society and the British Government began in 1868 to make a collection of noxious and beneficial insects she contributed what she had and continued to collect with more ardor for ten years. She also made models of insect injuries, which spread her reputation in many countries. She conceived the idea of collecting statistics of insect ravages, which could only be done by the voluntary cooperation of observers in all parts of the country. In a pamphlet entitled *Notes for Observation on Injurious Insects* she unfolded her scheme in 1877, and in the autumn of that year she had enough data to issue a record, which was completed in succeeding years. These annual reports were published as long as she lived. In 1899 a general index was printed of the 22 reports issued up to that year. In 1881 she issued a special report of the ravages of the turnip-fly, which had been very destructive in that year. In 1882 she accepted the appointment of honorary consulting entomologist to the Royal Agricultural Society, which desired her aid in view of the serious and increasing attacks of insects on farm crops. Her reports printed by this society ceased in 1891 in consequence of a disagreement. Information and advice were sought from her and observations and specimens were sent to her from nearly every country in the world until in the spring of 1901 she determined to give up her entomological work. She was engaged in writing a book of *Reminiscences* in the last months of her life. The principal books that she published are *Manual of Injurious Insects*, *Handbook of Insects Injurious to Orchards and to Bush Fruits*, *The Cobham Journals*, *Guide to Methods of Insect Life*, *Injurious Insects of South Africa*, *Text-Book of Agricultural Entomology*, and *Flies Injurious to Stock*. She issued special reports on the Hessian fly, which she was the first to detect in English wheat-fields in 1886, and on the wireworm, the hop aphid, the mustard beetle, and other insect pests, after first sending out circulars of inquiry relating to them. When the ox-warble fly, the eel-worm, and other dangerous insects made their appearance she sent out circulars at her own expense warning farmers how to detect and how to destroy them or how to keep them away. Her investigations into the habits of the warble-fly were the means of saving the cattle-herds of various countries from a serious danger.

Pallavicini di Priola, Marquis Emilio, an Italian soldier, born in Genoa in 1824; died in Rome, Nov. 18, 1901. He left the military academy of Turin with the grade of 2d lieutenant, served in the campaigns of 1848 and 1849 with an infantry regiment, was transferred to the bersaglieri, and as commander of a battalion displayed signal gallantry in the storming of Sebastopol. In the campaign of 1859 he distinguished himself by his bravery, and for his conduct in the battle of San Martino he received the cross of the military order of Savoy. As major commanding a battalion of bersaglieri he drove the Swiss Pontifical Guards out of Perugia on Sept. 14, 1860, received promotion to a lieutenant-colonelcy, and for the capture of Capua and Ancona a gold medal and a colonel's commission. The Government ordered him to Catania to oppose the volunteers who were marching under Garibaldi upon Reggio, and at Aspromonte he took Garibaldi

prisoner. As major-general he was sent to repress brigandage in the south. Afterward he was lieutenant-general commanding army corps at Palermo and Rome, and on the death of Gen. Posi became aide-de-camp to King Humbert. He sat in the Senate from 1880.

Parodi, Alexandre, a French dramatist, born in Canea in 1840; died in Paris, June 23, 1901. He was a son of the Sicilian consul in Crete, became a naturalized Frenchman, resided successively at Milan, Smyrna, Geneva, and finally Paris, where he obtained a post in the prefecture of the Seine. He wrote letters for Italian newspapers, and his poetic style in French was not elegant, but he had a talent for the drama and the gift of producing strong and novel situations. After publishing *Passions et Idées* (1865) and *Nouvelles Messéniennes* (1867), two books of verse, he brought out in 1870 a drama in five acts, *Ulm le Paricide*, which critics pronounced a vigorous work. His *Rome Vaincue*, in 1876, brought celebrity. Yet for years afterward his pieces were refused by the managers, and he had them printed. In 1893 success came again when *La Reine Juana* was played at the Renaissance Theater. He wrote a political romance, *Le Dernier des Papes*, and *Le Pape*, a dramatic poem, in later years. In 1888 he published a volume of criticism on the French drama.

Paton, Sir Joseph Noel, a Scottish painter and poet, born in Dunfermline, Dec. 13, 1821; died in Edinburgh, Dec. 26, 1901. He was admitted to the Royal Academy as a student in 1843, and exhibited his first picture, *Ruth Gleaning*, at the Scottish Royal Academy in 1844. The next year he displayed two pictures there, and obtained a prize of £200 for a cartoon exhibited at Westminster Hall. He was admitted A.R.S.A. in 1847, and full R.S.A. in 1855. He was appointed her Majesty's limner for Scotland in 1866, and was knighted in 1867. His latest pictures were *Vade, Satana*; *Ezekiel's Vision of Dry Bones* (1893); *Oberon and Titania*; *By the Still Waters* (1894); *Puck* (1897); and *Queen Margaret reading the Bible to Malcolm Caenmore* (1900). Paton's pictures were very popular and exerted a strong influence upon persons not usually affected by pictorial art. He was eminent also as an archaeologist, and was the author of *Poems by a Painter* (1861); *Spindrift*, a volume of verse (1867).

Petit, Sir Dinshaw Manockjee, an Indian philanthropist, born in Bombay, June 30, 1823; died there, May 5, 1901. He belonged to a family of Parsee merchants. His grandfather had taken the cognomen Petit from the French on account of his short stature. Dinshaw was trained in the office of an English merchant and in his father's business. When the civil war in the United States broke out he invested 1,250,000 rupees, which he inherited from his father in 1859, in cotton plantations, which yielded immense profits during the cotton famine in Lancashire. Later he built mills in all parts of Bombay. He founded and endowed a hospital in Bombay, another for animals, a female college, a technical institute, and a hospital for lepers, dividing his benefactions between the sick, women, and dumb animals. He gave the land for Elphinstone College, and in Bombay and Surat he built drinking fountains, fire temples, and towers of silence.

Pettenkofer, Max von, a German physiologist, born in 1819; died in 1901. He elaborated with Karl Voit a respiration apparatus for measuring the chemical action in the lungs, and demonstrated that the production of carbonic acid varies between sleeping and waking. He drew attention to the importance of ventila-

tion in closed rooms and published tests for determining the degree of foulness in the air. He experimented with stone and other building materials and discovered that walls are pervious to air if they are dry, but not if they are wet, and to this he attributed partly the unhealthfulness of damp dwellings. The influence on health of the air exhaled from the soil engaged his attention, and he found that organic decay and the generation of carbonic-acid gas occurs near the surface of the ground and diminishes rapidly with the depth. He studied the variations of dampness in the soil and tried to connect them with outbreaks of cholera. His title of nobility was conferred on him in 1883 for his services in founding the science of hygiene.

Pi y Margall, Francisco, a Spanish politician, born in Darna in 1825; died in Madrid, Nov. 28, 1901. He wrote art criticisms while studying law in Madrid, became an ardent Republican politician, was elected Deputy for Darna in 1869, composed the proclamation establishing the republic on Feb. 11, 1873, became Minister of the Interior, and on June 8, 1873, President of the republic. As President he signed decrees for the separation of Church and state and the abolition of slavery in Cuba. After he was succeeded on July 18, 1873, by Nicolas Salmeron he was shot at by the priest Pollete. He held himself aloof from politics in the reign of Alfonso XII until, in 1880, he founded the Federalist party, of which he was the parliamentary leader after his election to the Chamber in 1886.

Powlett (Stanhope) (Primrose), Catherine Lucy Wilhelmina, Duchess of Cleveland, born June 1, 1819; died in Wiesbaden, Germany, May 18, 1901. She was the only daughter of the fourth Lord Stanhope, and in her youth was called one of the most beautiful women in England. She was one of the train-bearers at the coronation of Queen Victoria in 1838, and one of the Queen's bridesmaids in 1840. She married her first husband, Lord Dalmeny, son of the fourth Earl of Rosebery, in 1843, and was left a widow in 1851, when her son, the present Lord Rosebery, was but four years old. In 1854 she married Lord Harry Vane, who succeeded to the dukedom of Cleveland and took the name of Powlett. At his death in 1891, the dukedom became extinct, but Battle Abbey, the family seat, remained in the possession of the duchess during her life. The duchess was an enthusiastic traveler, and took an active interest in affairs. In 1889 she published *The Battle Abbey Roll: With Some Account of the Norman Lineages*, in 3 volumes. In this work, the result of much patient research, the author distinguishes between names properly belonging to the roll of the knights of William the Conqueror and those added subsequently.

Pretorius, Marthinus Wessels, a South African statesman, born in 1827; died in Potchefstroom, May 19, 1901. He was the son of Andries Pretorius, one of the leaders of the great trek, who in 1848, when the British seized Bloemfontein and declared the annexation of the Orange Free State, compelled the British garrison to surrender, but was driven across the Vaal when Sir Harry Smith brought up a British force. He died after signing of the Sand river convention by which Great Britain recognized the independence of the Transvaal, and his son Marthinus succeeded him as commandant-general and continued his policy, the aim of which was to unite the Boer republics. He invaded the Free State with the Potchefstroom commandos in 1857, but was unsuccessful. In 1860 he was elected President of the Free State, and still could not carry

out his plans. When all the Boers north of the Vaal came together and established the South African Republic in 1864, Pretorius left the Free State to become their first President. The Baralong tribes in the west, incited and armed by British missionaries, declared their independence and drove out the Boer settlers. After chastising them more than once, when the trouble broke out again President Pretorius accepted the arbitration of the Governor of Natal. To the consternation of the Boers, Gov. Keate decided against their right to the territory, although they had originally settled the Baralongs there on a tenure of service. He had been reelected in 1869, but the Keate award ruined his chances for the next term. His successor, President Burgers, by undertaking improvements in education and public works, leading to financial difficulties, and by his advanced views brought on civil dissensions which led in 1877 to the occupations of the towns by the British and the proclamation by Sir Theophilus Shepstone of the annexation of the Transvaal to the British Empire. Pretorius joined with Kruger and Joubert in rousing the Boers to resist annexation, but after they had regained independence in 1880, Paul Kruger, who had been their most efficient military chief as well as the most active political leader, was elected President when a regular Government succeeded in 1881 to the triumvirate.

Roberts, Alexander, a Scottish clergyman, born in Kincardineshire, May 12, 1826; died in March, 1901. He was educated at King's College, Aberdeen, and, entering the Presbyterian ministry, held pastorates in Scotland and London in 1852-'71. In the year last named he succeeded Principal Shairp as Professor of Humanity at St. Andrew's University, and he was professor emeritus at the time of his death. He was a member of the New Testament Revision Company in 1870-'81. His great aim in life was to convince the world that Christ in his public teaching habitually used Greek. Prof. Roberts published *The Threefold Life* (1858); *Inquiry into the Original Language of St. Matthew's Gospel* (1859); *Discussions on the Gospels* (1862); *Life and Works of St. Paul* (1867); *Writings of Irenæus and Hippolytus*, translation (1868); *The Bible of Christ and his Apostles* (1879); *Companion to the Revised Version of the English New Testament* (1881); *Old Testament Revision: A Handbook for English Readers* (1883); *Greek the Language of Christ and his Apostles* (1888); and *A Short Proof that Greek was the Language of Christ* (1893).

Robinson, Frederick, an English novelist, born in London, Dec. 23, 1830; died there, Dec. 6, 1901. He was all his life a resident of London, and besides being a prolific writer of novels was a frequent contributor of special articles to periodicals, and for five years dramatic critic on the *Daily News*. He founded the *Home Chimes*, which ran as a weekly for two years, and was then issued as a monthly. He was greatly beloved among his fellow craftsmen in literature, being wholly without envy and invariably generous in his recognition of the merits of others. His plots are skilfully constructed and his stories, which are fluently told, are always entertaining. He was the last of the more important "three-volume" novelists, and with the final extinction of that form of issue he published at less frequent intervals than before. A nearly complete list of his works is believed to be as follows: *The House of Elmore* (1855); *Wildflower* (1867); *One-and-Twenty* (1858); *Woodleigh* (1859); *High Church* (1859); *Grandmother's Money* (1860); *Twelve*

o'clock (1861); No Church (1861); Owen: A Waif (1862); Slaves of the Ring (1862); Female Life in Prison, by a Prison Matron, a very remarkable example of realistic fiction (1862); Jane Cameron (1863); Church and Chapel (1863); Mattie: A Stray (1864); A Woman's Ransom (1864); Carry's Confession (1865); Mr. Stewart's Intentions (1865); Milly's Hero (1866); Prison Characters (1866); Beyond the Church (1866); A Fight for Life (1866); No Man's Friend (1867); Ann Judge, Spinster (1867); Poor Humanity (1868); For Her Sake (1869); Stern Necessity (1870); True to Herself (1870); Wayford's Ward and Other Tales (1872); A Bridge of Glass (1872); Her Face was her Fortune (1873); Little Kate Kirby (1873); Second-Cousin Sarah (1874); As Long as she Lived (1876); The Romance of a Back Street (1878); Coward Conscience (1879); Poor Zeph, and Other Tales (1880); Othello the Second (1880); The Black Speck: A Temperance Tale (1881); Women are Strange, and Other Stories (1883); The Hands of Justice (1883); The Man she Cared For (1884); Lazarus in London (1885); A Fair Maid (1886); The Courting of Mary Smith (1886); In Bad Hands, and Other Tales (1887); A Dark Secret (1887); The Youngest Miss Green (1888); A Very Strange Family (1890); The Keeper of the Keys (1890); Her Love and his Life (1891); The Wrong that was Done (1892); The Fate of Sister Jessica, and Other Tales (1893); Under the Spell (1894); The Secretary (1895); Sweet Nineteen (1896). Many of Robinson's novels were reprinted in the United States, where his popularity was at one time equal to the favor he had won at home.

Rummel, Franz, a German musician, born in 1853; died in Berlin, May 3, 1901. He was a pupil of Liszt and a remarkable virtuoso who made many tours in the United States, on one of which, in 1898, he was taken ill and had to give up playing in public. He married the daughter of Prof. Morse, the electrician.

Salaman, Charles Kensington, an English musical composer, born in London, March 3, 1814; died there, June 23, 1901. He studied in the Royal Academy of Music and with Charles Neate in London and Herz in Paris, gave piano recitals in London till 1837, resided in Rome and other Continental cities, reappeared in London in 1850, began to give musical lectures in 1855, and formed a musical society in 1858. He composed innumerable songs and pieces for the pianoforte from the age of fourteen. He set songs in Hebrew and Greek as well as in English and other modern languages, and always aimed to convey the natural rhythm and accent of the spoken words.

Schamdorf, Sophus, a Danish poet, born in 1837; died in Ringsted in January, 1901. He published volumes of verse, humorous and pathetic, and novels of country life in Denmark, literary studies of Goldoni and Gozzi, and translations of the poetry of Leopardi, Manzoni, and other Italians.

Schenk, Auguste, a French painter, born in Glückstadt, Holstein, April 23, 1828; died in Ecouen in January, 1901. He was educated for mercantile life, traveled in England and Portugal, then went to Paris, studied art with Léon Cogniet, made his mark at the Universal Exposition of 1855, exhibited at every Salon, was made chevalier of the Legion of Honor in 1855, and at the exposition of 1889 his canvases were still admired, but later he faded from public notice. He painted landscapes with animals, flocks of sheep in the mountains in the midst of storms, and critics have never ceased to recognize his talent.

Schwarzkopf, Julius Karl von Gross von, a German soldier, born in Magdeburg in 1850; died in Pekin, April 17, 1901. He was the son of Gen. von Schwarzkopf, became an ensign in the Prussian foot-guards just previous to the Franco-German War, in which he was promoted lieutenant and won the Iron Cross for bravery. He was Prussian *attaché* at Paris at a critical period, commanded a regiment in 1897, and was sent to the Peace Conference at The Hague as German representative. His remarkable speech against the Russian proposal of gradual disarmament had a great effect and won him promotion to the rank of major-general. He commanded a brigade in the expedition to China, and on arriving there was relieved of this command in order to act as chief of staff to Count von Waldersee. He lost his life in trying to rescue the archives of the staff in a fire in the Winter Palace.

Siemens, Georg von, a German financier, born in Torgau in 1839; died in Berlin, Oct. 23, 1901. His father was a lawyer, and the son studied law at Heidelberg and Berlin. He served gallantly in the Austrian and French wars as an infantry officer, winning the Iron Cross for his conduct at Mars la Tour. After returning to civil life he traveled in all parts of the world in connection with the business of his cousins, the electricians, and then became a director in the Deutsche Bank of Berlin shortly after it was started, and in the development of that great financial institution he took the foremost part. Its objects were to free German foreign commerce from its dependence on London for facilities of credit and exchange, and to afford to the German markets and industries sufficient support to enable them to bear the stress of commercial crises at home and escape being swamped by crises abroad through the withdrawal of foreign capital. As the bank expanded, branches were established in Bremen and Hamburg, in London and Paris, in the United States, in South America, and later in Shanghai and Yokohama. This was his work. The enormous amount of foreign bills that the bank put out alarmed German merchants at first, but when they saw that it not only extended its business with extraordinary rapidity, but passed through commercial crises in which older concerns went down, they came to regard it as the strongest financial institution in Germany, and thus it was able to establish prosperous agencies in all parts of the empire. In Mexico it cooperated with American financiers in the conversion of the debt and the development of the country. It became the financial agent of the German Government and the instrument by which German enterprise in distant regions and German political policy were linked together. One of the latest and greatest enterprises which Dr. von Siemens carried out was the building of the Anatolian railroads in Asia Minor.

Silvestre, Paul Armande, French author, born in Paris, April 18, 1837; died in Toulouse, Feb. 21, 1901. He was educated at L'École Polytechnique, in Paris, and for nearly forty years was before the public as journalist, art critic, poet, and dramatist, as well as the extraordinarily prolific author of somewhat Rabelaisian stories. His verse includes *Rimes Neuves et Vieilles* (1866); *Les Renaissances* (1870); *La Gloire du Souvenir*, a poem of love (1872); *La Chanson des Heures*, 1874-'78 (1878); *Les Ailes d'Or*, 1878-'80 (1880); *Le Pays des Roses*, 1880-'82 (1882); *Le Chemin des Étoiles*, 1882-'85 (1885); *Roses d'Octobre*, 1884-'89 (1889); *L'Or des Couchants*, 1889-'92 (1892). The larger number of his collections of stories include *Les Malheurs du Commandant*

Laripètre (1881); *Les Forces de mon ami Jacques* (1881); *Les Mémoires d'un Galopin* (1881); *Le Péché d'Ève* (1882); *Pour faire rire* (1882); *Le Fillène du Docteur Trousse cadet* (1882); *Madame Dandin et Mademoiselle Phryné* (1883); *Les Bêtises de mon Oncle* (1883); *Contes Grassouillets* (1883); *Chroniques du Temps Passé, le Comte de l'Archer* (1883); *En Pleine Fantaisie* (1884); *Contes Pantagruéliques et Galants* (1884); *Le Livre des Joyeusetés* (1884); *Histoires Belles et Honnêtes* (1884); *Le Dessus du Panier* (1885); *Contes de Derrière les Fagots* (1886); *Histoires Inconvenantes* (1887); *Contes Incongrus* (1887); *Le Livre des Fantaisies, Joyeusetés et Mélancolies* (1887); *Gauloiseries Nouvelles* (1888); *Au pays du rire* (1888); *Fablaux Gailliards* (1888); *Contes à la Brune* (1890); *Contes Audacieux* (1890); *Histoire Joviales* (1890); *Contes Sales* (1891); *Le Célèbre Cadet Bitard* (1891); *Histoires Extravagantes* (1892); and *Pour les Amants* (1892). Dramas and operas for which Silvestre furnished the text are *Dimitri* (with Bernier) (1876); *Myrrha* (1880); *Monsieur* (with Burani) (1880); *Sapho* (1881); *Calente Aventure* (with Davye) (1882); *Aline* (with Hennequin) (1883); *Henry VIII* (with Detroyat) (1883); *Pedro de Zamalea* (1884); *La Tesi* (with Maillard) (1887); *Jocelyn* (1888); *Le Commandant Laripètre* (1891); *Griseldis* (with Morand) (1891); *Les Drames Sacrés* (with Morand) (1893). Among Silvestre's collections of art criticisms may be named *Le Nu au Salon de 1888 à 1892*; *Le Nu au Champ de Mars, Exposition de 1889* (1889); and *Le Nu au Louvre* (1890).

Simcox, Edith Jemima, an English literary critic, born in 1844; died in 1901. She was a younger sister of George Augustus Simcox, the poet, and of the late Rev. William Henry Simcox, and early in her career came under the influence of George Eliot, for whose genius Miss Simcox had a passionate admiration. She was one of the first contributors to *The Academy*, and she wrote for the *Fortnightly* and other periodicals, at first under the signature H. Lawrenny, but later over her own name. She was a pronounced agnostic. Her writing is able, but suffers much from obscurity, and the point of view is sometimes difficult to grasp, and to this circumstance may be attributed in some degree the comparative neglect into which it has fallen of recent years. Her published books are *Natural Law: An Essay in Ethics* (1877); *Episodes in the Lives of Men, Women, and Lovers*, a collection of Stories (1882); and *Primitive Civilizations, or Outlines of the History of Ownership in Archaic Communities* (1894).

Slaveikoff, M., a Bulgarian statesman, born about 1830; died in October, 1901. He was the poet and literary champion of Bulgarian independence and was elected president of the second National Assembly in 1880. In politics he was an adherent of Karaveloff, the leader of the Liberal party, and was Minister of the Interior in his second ministry, formed after the annexation of Eastern Roumelia. After that he held no ministerial post until Karaveloff called him into the Cabinet which he formed in March, 1901.

Smith, Edmund William, an English archaeological surveyor of the East Indian Northwest Provinces and Oudh, born in 1857; died in Mohinpurwa, Bahraich, India, Nov. 21, 1901. During Mr. Smith's residence in India he had made a detailed examination of the Mogul architecture of Fathpur Sikri, the ruined capital of Akhbar, and conducted extensive and judicious restorations at Lucknow, Fathpur Sikri, at the Taj Mahal in Agra, and at other places. The results of his investigations appear in his pub-

lished works, which include *The Shargui Architecture of Jaunpur* (1889); *The Mogul Architecture of Fathpur Sikri* (1894-'98); and *Portfolio of Indian Architecture: Drawings, Part 4* (1899).

Smith, George Murray, a British publisher, born in London, March 19, 1824; died in Weybridge, April 6, 1901. His father was chief partner in the firm of Smith, Elder & Co., India merchants and also publishers, and after the son had gone through the Merchant Taylors' school he entered the counting-house, became manager of the publishing department, and after the death of the elder Smith, in 1846, the head and manager of the whole business, which included banking and the general agency of the Overland route to India. He published the works of Charlotte Brontë, of Ruskin, and of Darwin, became Thackeray's publisher, founded the *Cornhill Magazine* in 1859 in order to issue the novels of that author in serial instalments, engaging Thackeray himself as its editor, and secured for the magazine George Eliot's *Romola*, for which he paid £7,000, instead of £10,000, the sum agreed upon if the author had extended the story to 16 parts according to the original agreement, whereas she finished it in 12 instalments. Thackeray retired from the editorship in 1862, and at a later period Leslie Stephen was editor for a time and James Payn after him. In 1865 Smith founded the *Pall Mall Gazette*, edited by Frederick Greenwood, and having the most brilliant English litterateurs for its contributors. Smith, Elder & Co., whose banking business was transferred to Henry S. King & Co., became Robert Browning's publishers, issuing a collected edition in 1868, followed by the first edition of *The Ring and the Book*. Matthew Arnold's prose writings were also printed by this firm, and Queen Victoria's *Leaves from the Journal of Our Life in the Highlands and Early Years of the Prince Consort*, as well as Sir Theodore Martin's *Life of the Prince Consort*, were given to them to publish. In 1882 George Smith, in consultation with Leslie Stephen, projected a *Dictionary of National Biography*, of which the first volume was issued in 1885 and the last in 1900.

Smith, James Hamblin, an English mathematician, born in Rickingham, Suffolk, Dec. 2, 1827; died in Cambridge in July, 1901. He was educated at Cambridge, and was a private tutor there in 1850-'92. He attained a high degree of proficiency as a mathematician, and his textbooks are among the most popular works of their kind. Among them are *Elementary Algebra* (1869); *Elementary Trigonometry* (2d ed., 1870); *A Key to Algebra* (1872); *An Introduction to the Study of Conic Sections* (1887); and *An Elementary Treatise on the Metric System of Weights and Measures* (1897).

Spicer-Jay, Edith Katherine, an English novelist, died in December, 1901. She took a deep interest in the welfare of the soldiers, and, for some years, until prevented by failing health, was honorary lady superintendent of the London Soldiers' Home and Guards' Home. Her fictions, which are mainly tales connected with army life, were written over the signature of E. Livingston Prescott. They were extremely popular in army quarters, and their author was buried with military honors. Her published books include *The Apotheosis of Mr. Tyransley* (1895); *Mask and Martyr* (1896); *Scarlet and Steel* (1897); *Rip's Redemption, a Trooper's Story* (1897); *Red-Coat Romances* (1898); *Dearer than Honor* (1898); *The Measure of a Man* (1898); *A Small, Small Child* (1898); *Helot and Hero* (1899); and *War and Illusion* (1899).

Stainer, Sir John, an English organist and composer, born in London, June 6, 1840; died in Verona, Italy, April 1, 1901. He was the son of a schoolmaster, and at the age of seven entered the choir of St. Paul's Cathedral, remaining chorister there until appointed to the post of organist at St. Michael's College, Tenbury, in 1856. Four years later he became organist of the university church at Oxford, retaining this place with the organistship of Magdalen College, till he succeeded Sir John Coss as organist of St. Paul's Cathedral in 1872. An accident to his eyes obliged him to resign this post in 1888. He was knighted in the same year, and in 1889 he was appointed Professor of Music at Oxford. He did much to vitalize the interest in music at the university, and his Sheldonian lectures on the subject were always fully attended. He was an excellent all-round musician, and enjoyed a wide and well-deserved popularity, but no one work of his stands prominently forth from among the mass of his admirable scholarly compositions. His works, which are very numerous, and include oratorios, cantatas, services, and hymns, are simple in construction, and melodiousness may be called their prevailing characteristic. The most popular of all his compositions is a sevenfold Amen, and among others may be named the oratorios *Gideon*, and *The Crucifixion*, and the cantatas *The Daughter of Jairus*, composed for the Worcester Festival of 1878, and *Mary Magdalen*, written for the Gloucester Festival of 1883. Sir John Stainer was likewise author of the following works upon music: *A Theory of Harmony* founded on the Temporal Scale (1871); *Harmony* (1877); *The Organ* (1877); *The Music of the Bible* (1879); and *Composition* (1880).

Stephens, James, an Irish agitator, born in Kilkenny in 1824; died in Dublin, March 29, 1901. He was a clerk to an engineer when in 1848 he took an active part in the Young Ireland rising under Smith O'Brien in 1848, on the collapse of which he fled to Paris with John O'Mahony. These two planned an oath-bound revolutionary organization which should unite the Irish race in all parts of the world for the overthrow of English rule and the establishment of an Irish republic. Stephens was to go to Ireland to organize the society there and enlist and secretly train the men who were to do the fighting, and as he took the post of danger he insisted that he should have supreme control of the movement at home and abroad. The time for the rising was naturally left for him to choose. O'Mahony's field was America, and his task was to raise the money to support the organization and obtain munitions of war and to select trained military officers who were to lead the insurgent forces into battle. The name that Stephens gave to the society was the Irish Republican Brotherhood. O'Mahony chose to call his branch by the political name of *Fianna Eirionn* after the legendary champions of Ireland; hence the name of Fenians came to be attached to all the members. They were bound by oath to bear true allegiance to the Irish republic, to obey implicitly the orders of their superiors, and to take up arms for the deliverance of Ireland when called upon. O'Mahony went to the United States in 1853, and with other exiles organized lodges in numerous places. Stephens when he first went to Ireland in 1856 had poorer success because the political movement had to be created and it was opposed from the start by the Catholic clergy. The Fenians of America gave it an impetus when they brought over in 1861 the remains of the dead patriot Terence Bellews McManus for a political funeral in Dublin. Stephens

started in 1863 a newspaper organ called the *Irish People*, and in an anonymous pamphlet he sketched in detail a constitution for the Irish republic, with a president, senate, and chamber of representatives, the latter to have one member to 30,000 inhabitants elected every three years by universal male suffrage and paid £300 a year; the senate to consist of 150 members partly elected by the chamber and partly nominated by the president, first for a preliminary term of five years, and after that for life, and to have sole power to impose taxation; the president to be elected by the senate from 3 names presented by the chamber and to draw a salary of £2,000; the seat of administration to be in Limerick, while congress was to meet at Athlone. Stephens, the head center, was exceedingly active, and not less secret, in his movements, going about everywhere to form branches, known to the incautious members who were caught and to the numerous spies and informers who worked among them as *Shewk*, which is the Irish word for hawk, a man of mystery whose real name and abiding-place were unknown, who could not be followed or detected. Other Fenians were not adepts at conspiracy. Most of the plans and secrets came out in print in the newspapers of Cork and Dublin or of Chicago and New York. The day of the rising was to be Sept. 20, 1865. Before that date men who had fought in the civil war of the United States on both sides in various ranks went over to Ireland and in barns and empty stores began drilling recruits in the use of rifles and pistols, of which there was no great provision, although \$400,000 had been remitted from the United States for the purchase of munitions of war. Five days before the appointed day the police seized the office of the *Irish People* and arrested the principal leaders of the movement, all except C. O. I. R., the Chief Organizer of the Irish Republic, as Stephens was styled, for whose apprehension a reward of £23,000 was offered. On Nov. 11 he was found in the person of "Mr. Herbert," a gentleman of fortune, residing with his wife in a villa at Sandymount. His trial was appointed to begin on Nov. 28. On Nov. 25, with the aid of two Fenians who were officials of the prison, he made his escape, and he was not again captured, although he hid himself in Dublin for four months, and in March, 1866, made his way to Paris. When the Fenians of the United States split into two warring factions over the question whether, as Roberts, the New York dry-goods merchant, desired, they should invade Canada, or whether, as O'Mahony insisted, they should make Ireland the sole objective, Stephens went over to try to make peace, but without success. He made a tour through the United States and promised that Ireland would rise on June 1, 1867, and that he would be there to head the rebellion. When that date came and he was found still in New York he was denounced as a traitor or a coward, and his life was threatened, on which he fled to Paris, and his disappointed followers derisively interpreted the initials C. O. I. R., which he had been accustomed to write after his name, to mean Cowardly Old Irish Renegade. The feeling against him subsided, but he played no part in Irish agitations afterward, and when he quietly returned to Dublin in 1891 he was presented with a cottage. His only subsequent action in Irish politics was a declaration in favor of Parnell when a section of the party discarded him as leader.

Stoiloff, Constantin, a Bulgarian statesman, born in Philippopolis in 1852; died April 5, 1901. He took his degree as doctor of laws in the uni-

versity of Heidelberg, took part in the Assembly of Notables which met at Tirnova in 1879 to frame the constitution of the new state, and has been from that epoch one of the chiefs of the Conservative party of Bulgaria. He was one of the delegates who offered the Crown to Prince Alexander at Livadia. He has been by turns Prime Minister, Minister of Foreign Affairs and of Worship, Minister of Justice, and Minister of the Interior. He was a man of European culture, a fine orator, and a statesman of clear views, but as executive head of the Government after the fall of Stamboloff he had not the energy to restrain the wild passions of his countrymen, whose nature he did not comprehend and to whom he appeared as an alien spirit. The murderers of Stamboloff carried out their plans with the active and passive connivance of officials, and the Macedonian committee became so powerful and so lawless as to endanger the public security. The worst episodes in the history of Bulgaria occurred in the administration of a minister who had the least sympathy with such excesses and no interest in suffering them to take place. The reconciliation with Russia occurred also in Stoiloff's administration.

Strachey, Sir Edward, an English author, born Aug. 12, 1812; died Sept. 24, 1900. He was third baronet in the succession, attaining this rank in 1858, and was educated at Haileybury and Eton colleges. He was high sheriff of Somersetshire in 1864, and resided at Sutton Court, Pensford, near Bristol. He edited Malory's *Morte d'Arthur* (1871); and was the author of *Theology, History, and Politics*; *Jewish History and Politics*; *Miracles and Science*; *Essay on Hamlet*; *Talk at a Country House*; and a collection of essays (1894).

Stubbs, William, an English historian, born in Knaresborough, Yorkshire, June 21, 1825; died in Cuddesdon, Oxfordshire, April 22, 1901. He was the son of a solicitor and received his education at Oxford. He took orders in 1848, and held a fellowship in Trinity College in 1848-50. From 1850 to 1866 he was vicar of Navestock in Essex, and for the last six years of this period held the office of diocesan inspector of schools for the diocese of Rochester. He was librarian to the Archbishop of Canterbury at Lambeth in 1862-68, and Regius Professor of Modern History at Oxford in 1866-84. In 1879 he was appointed residentiary canon of St. Paul's Cathedral, resigning the living of Cholderton, Wiltshire, where he had been rector from 1875. In 1884 he was consecrated Bishop of Chester, whence he was translated to the diocese of Oxford in 1889. His latest public appearance was at St. George's Chapel, Windsor, the day after the funeral of Queen Victoria, on which occasion he delivered the sermon. Long before his death he had come to be considered as the world's greatest medieval historian. His *Constitutional History* is indispensable to any one desirous of obtaining a sound knowledge of English history down to the time of the Tudors, but it must be admitted that it furnishes rather dry reading when compared with the work of his fellow historians Freeman and Green. The spirit in which all three men wrote, however, was the same, and was in marked contrast to that which inspired the historical writing of their brilliant contemporary Froude. Bishop Stubbs's publications, original and edited, comprise *Hymnale Secundum Usum Sarum* (1850); *Registrum Sacrum Anglicanum* (1858-97); *Tractatus de Sancta Cruce de Waltham* (1860); *Mosheim's Institutes of Church History* (edited) (1863); *Chronicles of the Reigns of Henry II and Richard I* (edited)

(1867); *Select Charters* (edited); *The Historical Collections of Walter of Coventry* (edited) (1872-73); *The Constitutional History of England in its Origin and Development* (1874-75); *Memorials of St. Dunstan* (edited) (1874); *The Historical Works of Master Ralph de Diceto* (edited) (1876); *The Early Plantagenets* (1876); *The Historical Works of Gervase of Canterbury* (edited) (1879-80); *Chronicles of the Reigns of Edward I and Edward II* (edited) (1882-83); and *Seventeen Lectures on the Study of Medieval and Modern History* (1886).

Stumm, Baron Karl Ferdinand von, a German industrialist, born in Saarbrücken, March 30, 1836; died at Castle Halberg, near that town, March 9, 1901. He studied in Bonn and Berlin, and in 1858 succeeded as head of the family firm which for over half a century had owned the iron-works at Neunkirchen. Under his management they became one of the greatest metallurgical establishments in the world, and he became also president of the Dillinger Furnace Company. In the French war he served as a captain of cavalry. He was always active in politics and was one of the founders of the German Imperial party. He sat in the Prussian Chamber from 1867 till 1870, and then in the Reichstag till 1881, and again from 1889 till the end of his life. He not only made his workshops models of technical progress and business methods, but he exercised a patriarchal sway over his 10,000 workmen in all the details of their lives, even in regard to their marrying, and if any of them read socialistic literature he was dismissed. Their mutual benefit associations were conducted under his personal supervision. He furnished them with model dwellings, gardens, baths, dining-halls, hospitals, technical schools, and a library. If any of them felt aggrieved about anything he wanted them to come directly to him. By such paternal care and discipline he was always able to keep socialists away and had no difficulty in always getting the votes of his work people. He regarded socialism as a baneful doctrine that threatened to destroy the state and disrupt society, and the socialists of the chair were even more obnoxious to him than the Social Democrats. Any interference of the Government in the labor question, any regulation diminishing the authority of the employer, seemed to him to unsettle at the foundations of society and disturb the conditions of industrial development and social progress. The Social Democrats regarded the "King of the Saarland" as their arch-enemy, and bitter controversies took place between him and the Socialist leaders in the Reichstag. He was nevertheless one of the authors and chief promoters of the measure for accident and old age insurance and advocated the principle that the Government should provide for the widows and orphans of working men. He endeavored to secure the reenactment of the exceptional laws against the socialists and proposed the dismissal of all professors in German universities whose doctrines were tinged with socialism. An intimacy subsisted between him and Wilhelm II from the time when the young Kaiser renounced the socialistic leanings which he manifested for a time and turned about in the opposite direction. During the Stumm era, as it was called, when the Baron von Berlepsch was compelled to resign the post of Prussian Minister of Commerce and Industry and the Kaiser contemplated repressive measures against socialism, the supposed political influence which Baron von Stumm was supposed to exercise over the Emperor gave occasion for questions to the ministers which did not come from the Social Democrats

alone. While this phase of the Emperor's mind passed like the rest, Baron von Stumm's dread of socialism grew more intense and overpowering.

Sutton, Henry Septimius, an English journalist, born in 1825; died in Manchester, in May, 1901. He entered journalism in connection with his father's paper, the Nottingham Express, and was editor of the Manchester Alliance News for a long period. He published, a half century ago, *The Evangel of Love and Quinquenergia*, two volumes of verse, which on his becoming a Swedenborgian he suppressed. Selections from these books with other poems were issued in later life by him—*Poems* (1886); *Poems* (1887). He was the author also of *Five Essays for the Student of the Divine Philosophy of Swedenborg* (1896).

Szilagyi, Desider, a Hungarian statesman, born in 1840; died in Budapest, July 31, 1901. He was educated for the law, became eminent in his profession, was appointed to various posts under the Ministry of Justice, was sent to England in 1870 to study the civil and criminal laws of that country as a preparation for the codification of the Hungarian law, in which he subsequently took a prominent part, was elected shortly after his return to the House of Representatives, and by his eloquence and his knowledge of laws and political institutions he made his mark at once as a legislator and political leader. After the work of codification was completed he accepted the chair of criminal law and political science in the University of Budapest. He was the principal author and promoter of the recent laws on marriage, education, and other subjects which were bitterly resisted by the Clericals. In the Wekerle Cabinet his was the dominating spirit. He carried through measures for the purification of elections and many other reforms, some of which were at first opposed on grounds of expediency by his own party.

Tait, Peter Guthrie, a Scottish scientist, born in Dalkeith, in 1831; died in Edinburgh, July 4, 1901. He was educated at the university of his native city, and at Cambridge, becoming a fellow in 1852. He was appointed Professor of Mathematics in Belfast College in 1854, and in 1860 became Professor of Natural Philosophy in Edinburgh University, a chair which he occupied until his death. Prof. Tait's published works include *Dynamics of a Particle* (1856); *Quaternions* (1867); *Thermo-Dynamics* (1868); *Recent Advances in Physical Science* (1876); *Light* (1884); *Heat* (1884); *Properties of Matter* (1885); *Dynamics* (1895); *Scientific Papers* (1898); *Newton's Laws of Motion* (1899). With Balfour Stewart he published *The Unseen Universe* (1875); and a *Treatise on Natural Philosophy*, with Lord Kelvin.

Tanner, Charles Kearns Deane, an Irish politician, born in Cork in 1849; died in London, April 21, 1901. He was the son of a physician, and was educated in Paris and at Winchester School, was graduated in arts and in medicine at Queen's University, Cork, and continued his medical studies in Leipzig and Berlin Universities. He practised medicine at Cork with success. In 1885 he was elected to Parliament as a Parnellite, and he held his seat until his death, joining later the Anti-Parnellite wing of the Irish party. Dr. Tanner carried the obstructive tactics of the Nationalists further than any other member of the party. He had a fiery nature and a combative temperament. Without any gift of oratory he had an acute and alert mind, and developed a gift for hackling the ministers and probing them with annoying questions; but so often did he scandalize the house by violating the accepted rules of par-

liamentary decorum, especially by the violence of his language, that they treated him with scant courtesy, though personally he was generally liked and respected. He came almost as often under the censure of the Speaker as all the other Irishmen together, and when Irish obstructionists were removed from the house, when most others yielded to a show of force, he always made a real fight.

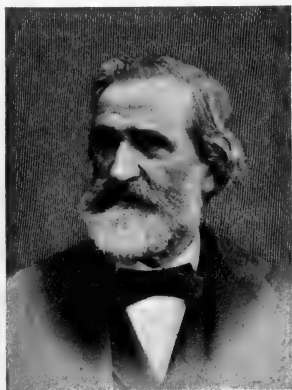
Taylor, Isaac, an English scholar, born near Ongar, Essex, May 2, 1829; died in Settrington, Yorkshire, Oct. 18, 1901. He was the oldest son of Isaac Taylor, author of *The History of Enthusiasm*, and was educated at King's College, London, and Cambridge. He took orders in 1858 and was vicar of St. Matthias, Bethnal Green, London, in 1865-'69; rector of Holy Trinity, Twickenham, 1869-'75; and rector of Settrington in 1875-'1901. For several years he was a canon of York. He was the third Isaac Taylor to win distinction in literature, his grandfather being the well-known "Taylor of Ongar." He was a man of varied interests, and as one of the founders of the Alpine Club and an enthusiastic entomologist was known to many persons to whom his philological and other writings were unfamiliar. His published works include *Charicles: Illustrations of the Life of the Ancient Greeks* (edited) (1854); *The Liturgy and the Dissenters* (1860); *Words and Places* (1864); *The Burden of the Poor* (1867); *The Family Pen: Memorials, Biographical and Literary, of the Taylor Family of Ongar* (1867); *Etruscan Researches* (1874); *Greeks and Goths: A Study in the Runes* (1879); *The Alphabet, an Account of the History and Development of Letters*, his greatest work (1883); *The Manx Runes* (1886); *Domesday Studies* (1888); *Leaves from an Egyptian Notebook* (1888); *The Origin of the Aryans* (1890); *Names and their Histories* (1896).

Tearle, George Osmond, English actor, born in Plymouth, England, in 1852; died in Newcastle-on-Tyne, Sept. 6, 1901. His first appearance was at the Adelphi Theater, Liverpool, March 29, 1869, in the rôle of Guildenstern in *Hamlet*. Three years later he became leading man at the Marischal Street Theater, Aberdeen, Scotland, where he played Shakespearian and standard drama for ten months, after which he joined the company of Charles Reade, the novelist, playing in the original production of Reade's dramatization of his own novel, *The Wandering Heir*. He remained with this company one season, and then undertook the leading rôles at the Theater Royal, Belfast, Ireland, from which he went to the Gaiety Theater, London, where he appeared as leading man on March 29, 1875, in the play of *Rose Michel*. After this engagement he made a tour of the provinces in Mrs. John Wood's company, took part in the production of *Rip Van Winkle* at the Princess Theater, London, played leading rôles for a time at Drury Lane, and then organized a company of his own, with which he appeared in England and Ireland for several seasons in a Shakespearian repertoire. In 1880 Lester Wallack, manager of Wallack's Theater, New York, engaged Mr. Tearle as leading man in his company. He made his first appearance in America at Wallack's Theater in September, 1880, remaining there until the retirement of Lester Wallack from professional life a few years later. When the late Henry E. Abbey assumed control of Wallack's Theater in 1887 (changing its name to Abbey's Theater), Mr. Tearle was engaged to play the leading rôles. He played there for some time, and then went on the road in the United States for several seasons, returning to England about

1889, where, during the ensuing twelve years, he appeared at the head of his own company, chiefly in Shakespearian drama. Mr. Tearle was twice married. After being divorced from his first wife, he married (in Denver, Col., 1883) Minnie Conway, an American actress, formerly the wife of Jules Levy, the cornetist, and daughter of F. B. Conway, the actor-manager of the Brooklyn Theater.

Tucker, William Hill, an English clergyman, born Aug. 30, 1802; died in Brighton, Nov. 19, 1901. He was educated at Cambridge and was admitted deacon and priest in 1847. He became rector of Dunton-Waylett, near Brentwood, Essex, in 1845, resigning the living in 1892. He spent eleven years at Eton, and was all his life an enthusiastic Etonian. Eton of Old, or Eighty Years Since (1892), has been very popular.

Verdi, Giuseppe, an Italian composer, born in Roncole, Oct. 10, 1813; died Jan. 27, 1901. His father, the keeper of the village inn and of a small store in connection with it, encouraged the



boy's early bent and precocious talent for music, had him instructed by a strolling musician, and bought an old spinet, and soon the half-grown youth was able to take the office of organist in the village church, in which as choir-boy he first learned to love music, and in his rapt attention to the organ strains provoked

the wrath of the priest by neglecting the genuflections. A merchant of the neighboring town of Busseto, to whom he was apprenticed, being a great lover of music, furnished means for him to go to Milan to study, after he had gained what knowledge he could from Giovanni Provesi, leader of the Philharmonic Society. When the director of the conservatory, as the result of the entrance examination, refused to receive him as a student on the ground that he possessed no musical gift, although the municipal council of Busseto had added a contribution to aid him in completing his musical education. His patron, whose name was Barezzi, would not accept this verdict, nor did young Verdi, now nineteen years of age, lose heart, but took private instruction from Vincenzo Lavigna, conductor of the orchestra of the Scala Theater. He learned enough of composition with such poor help to essay some marches and ecclesiastical pieces, then returned to Busseto as conductor of the Philharmonic Society of that place and organist in the church as successor to his old teacher, Provesi, who died just before his return. The clergy would not have him as organist, but the town authorities voted him a stipend. Barezzi had such faith in his future that he gave him his daughter Margherita in marriage, and three or four years later the young couple removed to Milan, where, in November, 1839, Verdi's first opera, *Oberto di San Bonifacio*, was brought out at La Scala. Its success was not brilliant, but still it was so satisfactory that lasting relations were established between the composer and the music publisher Ricordi as well as Merelli, the director of the theater. Un Giorno

di Regno, produced a year later, did not please the public, and upon this disheartening failure came a domestic calamity, the sudden death of his wife and children. Verdi declared he would compose no more music. Merelli, however, kept him to his contract to write the score to *Simon Boccanegra*, and this opera established his fame. It was produced on March 9, 1841, and it led to his second marriage, with Giuseppina Strepponi, the singer of the part of Abigail, who remained until old age his tender and sympathetic companion. *I Lombardi alla Prima Crociata*, produced at La Scala on Feb. 11, 1843, was received with stormy applause. It won the affection of the Italians of Lombardy, and from this time Verdi wrought into his music, and the patriots of Italy found in it, the clarion notes that inspired them in their struggle for national independence and unity. The initials of his name were taken as an omen when the movement became ripe, foretelling the reign of Vittorio Emanuele Re D'Italia. In the operas that followed—in *Ernani*, *I due Foscari*, *Johanna d'Arc*, *Alzira*, and *Attila*—he knew how to touch patriotic chords in a way that gave an effect and significance to his works that none but Italians could appreciate and feel. *Macbeth*, *I Masnadieri*, *Jerusalem*, *The Corsair*, *Legnano*, *Luisa Miller*, *Stiffelio*, and other works written before 1849 are forgotten even in Italy. Verdi was a prolific and hasty composer at this period, regardless of dramatic unity and fitness, and even of musical symmetry, able to turn out in a fortnight a completed opera that satisfied the popular taste of the time, being written to suit the voices of the singers and to enable them to exhibit their flowery vocalization. He was inventive and versatile, constantly trying new effects and different styles. The melodious operas that he wrote after 1850 extended his fame to all parts of the globe and made him the universal popular favorite among musical composers, although stricter canons and higher artistic aims had already made of the musical drama in Germany a medium of political expression almost on the plane of the true drama, differing essentially from the artificial trivialities of the Italian school in which tragedy was made grotesque and comedy extravagant to furnish a humorous setting to a series of graceful melodies, unless the melody itself was sophisticated to accommodate the bravura of the singers. In graceful song of the purest Italian refinement and elegance Verdi showed himself in his newer development the supreme master, and underneath the crudities, the broad and striking effects, the democratic simplicity that offended musicians of the straiter order the more it captivated—first of all Italians, then the profane public of all countries—there was a romantic charm, a stirring vigor, a dramatic force in his music that places him among the great masters. The books were made according to his desire to agree with the musical themes that his genius evolved when he struck his true original vein. That first great period was ushered in by *Rigoletto*, first presented in Venice in 1851. Though fond of popular success, and gratified when he achieved admiration and gain, he had the sincerity of genius that despises professional trickery and advertisement. He adopted, nevertheless, an ingenious device to pique the curiosity of the Venetians and insure the full effect of that catching air *La donna e mobile* by not giving it to the tenor until the very evening of the first night. *Il Trovatore* was his next opera, and the next after that was *La Traviata*, which by a curious mischance was hissed in Venice. He knew the

Italian public, and told the singers that they did not understand his music. With a better schooled company it aroused in 1853 the same furor in Rome as the two other masterpieces, and later in Venice too. These three works, in which Verdi's merits and shortcomings, his strength and his weakness, are equally apparent, typified the music that the world liked when Wagner could impress only his disciples with the music of the future. The Sicilian Vespers (1855); Simon Boccanegra (1857); and Aroldo (1857) had only a transient success. Un Ballo in Maschera, while not lacking in popular qualities and captivating morsels of song, revealed a new Verdi, who sought to untold the dramatic theme, to reflect the phases of emotion, to fit the vocal score to the moments of the drama. He could write no such operas in three weeks. His next production, La Forza del Destino, was finished in 1862, and then Don Carlos in 1867. These transition works had no great success. His later style was fully formed, his new method of work quite mastered, when the Khedive-Ismaïl Pasha desired of him a piece to add glory to the magnificent opera-house that he had built in Cairo. The master put his soul into this work, Aida, which was produced at Christmas in 1871, and went the round of the earth, astonishing and puzzling the adherents of the old and the new schools, the admirers of the Italian and the German opera, in an equal degree. Wagner had triumphed in Germany and was winning ground in France and Italy. In London and St. Petersburg the artists of the musical stage alternated the strong dramatic impersonations of Wagnerian characters with the old rôles and their florid technique. People wondered whether the sexagenarian Verdi had become a Wagnerite or whether he simply made sport of the music of the future, producing by a *tour de force* a perfect Wagnerian opera in order to demonstrate to the world the hollow pretense of the new art. Aida is a finished musical drama as conscientiously elaborated as the works of Wagner in method and purpose, yet the music is thoroughly Italian, the style that of Verdi. While adapting the music to the sense and action of the piece with studious pains, and working out the dramatic thought of the composition with careful regard for the unities, the master remained true to himself and to his honest principle of avoiding recondite effects and technical mysteries and making the music agreeable and intelligible to the untutored masses. The fire, the emotional force, the irresistible charm of his earlier rough, disjointed pieces with which he had won wealth and the admiration of the world, which still were the prime popular favorites, were refined away. In pursuing the higher art, Verdi, whose uncultured genius had conquered and still held captive the popular taste, to the chagrin of the trained musicians even of the Italian school, weakened himself and sacrificed force to refinement. Nevertheless he devoted a laborious old age to cultivating the unities of the studied musical drama for art's sake and the honor of his country, conscious that he could gain no new laurels by work less impressive and characteristic than the vigorous and natural creations by which his reputation was already secured for generations. After fifteen years of silent labor he gave to the world *Otello* in 1889, and in 1893 *Falstaff*. In these he broke away from all the old formulas, abstained from the glittering gems with which he could have garnished the works to make them attractive, introduced no airs at all, molding the music to the poetry, making it follow the thought, the words

and action of the piece, and in harmony, instrumentation, and composition proving himself the equal of the masters of the higher music without borrowing from them a single idea, remaining Italian in all respects, and Verdi, still original and independent throughout. Musicians appreciate these elaborate and polished works, into each of which Verdi put toil, thought, and creative power sufficient to produce *Rigoletto*, *Trovatore*, and *Traviata*. The public does not like Verdi's music so refined, restrained, and elusive. Verdi produced 28 operas during his life. As one of the intellectual heroes of the movement for the political liberation of Italy his compatriots elected him on Jan. 3, 1861, to the first Italian Parliament as representative of Borgo San Donnino, the district in which his home was situated. He took his seat on the Right, made no speeches, and retired when the legislative period came to an end. The King made him a Senator in 1874, but after taking the oath he never again set foot in the Palazzo Madama. Although his works brought him a great fortune, he lived very simply in the old-fashioned way of the Italian middle class, often going himself to the market for the household provisions. By a quiet and methodical way of living he preserved his physical and intellectual vigor to a ripe old age. A great part of his wealth he devoted to founding in Milan an asylum for needy musicians.

Victoria, Queen of Great Britain and Ireland and Empress of India, born in Kensington Palace, London, May 24, 1819; died in Osborne House, Isle of Wight, Jan. 22, 1901. For a sketch of her life and the events of her reign, see *Annual Cyclopædia* for 1900, page 737. For a portrait, see *Annual Cyclopædia* for 1897, page 365.

Victoria, Empress **Friedrich** of Germany, Princess Royal of England, born in Buckingham Palace, London, Nov. 21, 1840; died in Homburg, Aug. 5, 1901. She was the eldest child of Queen Victoria and Prince Albert of Coburg, and grew up to be a princess of unusual intelligence and accomplishments. Before she was fifteen years old she was betrothed to Prince Friedrich Wilhelm of Prussia, and when seventeen she was married. The English people did not like the idea of a royal alliance with a house of such absolutist tendencies as the Prussian and so intimate with the despotic Russian Emperor. As time went on, a strong antipathy was felt among the governing class in Prussia toward the English princess because the Crown Prince seemed to have become imbued, through her influence, with notions of British constitutionalism and parliamentary government that were held in Germany only by an objectionable class of doctrinaire theorists and in a Prussian Crown Prince and future German Emperor were undignified and mischievous. As soon as the princess was settled in her new home she took up again her painting and sculpture and the habit of study in which her father had trained her, and she applied her mind especially to abstruse political theories and questions of political economy. In January, 1859, she gave birth to the present German Emperor. The antagonism in the court circle to her political views made itself felt after her husband became Crown Prince in 1861; and when her father-in-law, the King, abandoned the Liberalism he had professed when Prince of Prussia and placed himself under the guidance of Bismarck, her position became painful. The King and his son became estranged over politics, and the Crown Prince blamed Bismarck for misguiding his father, while Bismarck blamed the Crown Princess for instilling foolish heresies in her hus-

band's mind. Bismarck regarded the Liberal Englishwoman as his chief antagonist and most dangerous enemy as long as her husband lived. He feared she would import into the empire that he had built British constitutional liberties which he detested, or that she would endanger its existence by influencing her husband when he became Emperor to sacrifice its vital interests through being made an instrument of some design of English policy. The Crown Prince and Princess, as well as the Liberal party of Germany, opposed the military armaments, the annexation of Schleswig-Holstein, and the invasion of Austria, but the man of blood and iron had his way and was successful, and the multitude who had execrated him now acclaimed him. The Crown Princess thought the conquest of Hanover an act of spoliation, and in the French war she raised her voice to prevent the bombardment of Paris, which Bismarck thought a most unjustifiable interference. When negotiations were taking place for the federation of the German states the Crown Prince carried on separate negotiations with a view to an empire proceeding from the people, to be governed by an elective Parliament with responsible ministers. When the Crown Prince became the Emperor Friedrich I, on March 9, 1888, he was sinking rapidly with a fatal disease, and in ninety-nine days he was succeeded by his son Wilhelm II. This young prince had been placed by his grandfather under the political tuition of Bismarck, who had impressed upon him the sacred rights and responsibilities of the Kings of Prussia, the evils of Liberal ideas, and the danger of English influence. The relations between the Emperor and his mother were consequently unpleasant in the extreme. When Wilhelm withdrew his favor from the old Chancellor and unceremoniously dismissed him, and when he asked the Empress Friedrich to use her influence in his behalf for the sake of the country, she replied that through his own action she had been deprived of the power of influencing the Kaiser. She found her position in Berlin unbearable, and retired to a country place at Kronberg, near Frankfurt, calling the house built for her Friedrichshof, in memory of her deceased husband. The bitterness and chagrin of her life were softened when the Kaiser began to show some respect to his father's memory and some filial regard for her. She was seized with cancer, the same malady that carried off her husband, and had a lingering and painful end. She left six children: Emperor Wilhelm; Prince Heinrich of Prussia, who married Princess Irene of Hesse; Princess Charlotte, wife of Prince Bernhard of Saxe-Meiningen; Princess Victoria, married to Prince Adolf of Schaumburg-Lippe; Princess Sofia, married to the Crown Prince of Greece; and Princess Marguerite, married to Prince Friedrich Karl of Hesse.

Warr, George Charles Winter, an English scholar, born in Toronto, Canada, May 23, 1845; died in London, Feb. 21, 1901. He was educated at Cambridge, and was elected to a fellowship, but declined on account of the religious tests then in force. In after years he took part in the movement for the abolition of such tests. In 1874 he was appointed classical lecturer in King's College, London, and professor there in 1881. He assisted in founding the women's department of King's College at Kensington, and was classical lecturer there also. He published in 1883 *The Tale of Troy: A Classical Masque*, and followed it in 1886 with *The Story of Orestes*, from Æschylus, the two plays being issued in one volume in 1888, entitled *Echoes of Hellas*. His other

works include a translation of Teuffel's *History of Roman Literature* (1890); *The Greek Epic* (1895); and *The Oresteia of Æschylus*, a verse translation (1901).

Watkin, Sir Edward William, an English railroad manager, born in London in 1819; died there, April 14, 1901. He was the son of a London merchant, and engaged in the railroad business when it was new and uncertain, becoming secretary of the Trent Valley Railroad in 1845, and after this was absorbed by the London and Northwestern, general manager of the Manchester, Sheffield and Lincolnshire, of which he became chairman. In 1867 he became chairman of the Southeastern to extricate it from financial difficulties. In 1872 he performed a like service for the Metropolitan. He was a director of the most important British companies, and at one time president of the Canadian Grand Trunk. When the Erie Railroad was plunged into bankruptcy by Fisk and Gould he was sent to the United States to protect the interests of English investors. On his return he introduced some American methods in the British companies that he managed. He was elected to Parliament from Great Yarmouth in 1857, but was unseated on petition. He represented Stockport from 1864 to 1868 and the borough of Hythe from 1874 to 1895, first as a Liberal and after the division of the party on the Irish question as a Liberal Unionist. He was knighted in 1868 and made a baronet in 1880. As a railroad manager he had little experience of practical details. His distinction was in the conception of large schemes of amalgamation and expansion. He carried the Sheffield line, now known as the Great Central, to London, but did not succeed in uniting with it the Welsh and other railroads. He was the chief promoter of the Channel tunnel, which was condemned for military, not for engineering or financial, reasons.

Watters, Thomas, an English scholar, died in Ealing, Middlesex, Jan. 10, 1901. From 1863 to 1895 he had been in the Chinese consular service, and his knowledge of Chinese Buddhism was extensive, while he possessed also considerable familiarity with Sanskrit. He published *Lao-tzu: A Study in Chinese Philosophy* (1870); *A Guide to the Tablets in a Temple of Confucius, Shanghai* (1879); *Essay on the Chinese Language* (1889); and *Stories of Life in China* (1896).

Watts, Alfred Alaric, an English author, born in 1824; died in London, Jan. 2, 1901. He was a son of the English minor poet Alaric Alexander Watts, and in 1859 he married the eldest daughter of William and Mary Howitt, the well-known authors. Besides several poems, Mr. Watts was the author of a pleasant, gossipy life of his father (1884). His more talented wife died in 1884. When the French poet Béranger died, in 1857, Mr. Watts wrote and published a poem on the funeral, which began with the lines:

Bury Béranger! Well for you
Could you bury the spirit of Béranger, too!
Bury the bard if you will, and rejoice;
But you bury the body and not the voice.

This poem may have been, and probably was, the inspiration for the famous John Brown song that appeared nearly three years later.

Wennerberg, Gunnar, a Swedish composer, born in Lidköping, Oct. 2, 1817; died in Stockholm, Aug. 24, 1901. He studied philosophy at the University of Upsala and became Professor of Esthetics in 1846. He was called as counselor to the Ministry of Education in 1865, became Councilor of State in 1870, and in 1875 Governor

of Kronobergslan and a member of the Swedish Parliament. His earliest published compositions were songs which he gave to the world in a collection published in 1847, entitled *Frihetsaenger*, followed by a humorous student duet in 1848 called *Gluntarne*, and by the trio, *De Tre*, in 1850, and *Serenade* in 1851. Subsequently he devoted himself to religious music, and composed an oratorio on the Birth of Christ and music for the Psalms of David. He wrote many poems which won for him a seat in the Swedish Academy in 1866, and were collected and issued in 1881-'85.

Westcott, Brooke Foss, an English prelate, born near Birmingham in January, 1825; died at Bishop Auckland, July 27, 1901. He was educated at Cambridge, and was ordained in the English Church in 1851. From 1852 to 1869 he was an assistant master at Harrow School, becoming a canon of Peterborough in the last-named year and a canon of Westminster in 1883. He was Regius Professor of Divinity at Cambridge, 1870-'90, and succeeded the famous biblical scholar Lightfoot in the bishopric of Durham in 1890. Bishop Westcott was surpassed in learning by none of his colleagues of the episcopate. He was one of the greatest biblical scholars of his time, his New Testament in the Original Greek, with Introduction and Appendix (1881), prepared with the assistance of the late F. J. A. Hort, being a monument of profound scholarship. The bishop was very popular in his diocese, and was president of the Christian Social Union from its foundation until his death. He took the liveliest interest in social problems, and was constantly appealed to for advice in disputes between employers and employed. The list of his published writings is long, and includes, in addition to the work already mentioned, *Elements of Gospel Harmony* (1851); *History of the New Testament Canon* (1855); *Characteristics of the Gospel Miracles* (1859); *Introduction to the Study of the Gospels* (1860); *The Bible in the Church* (1864); *The Gospel of the Resurrection* (1866); *History of the English Bible* (1869); *On the Religious Office of the Universities* (1873); *The Paragraph Psalter for Choirs* (1879); *The Revelation of the Risen Lord* (1882); *The Epistles of Saint John, with Notes and Essays* (1883); *The Historic Faith* (1883); *Some Thoughts from the Ordinal* (1884); *The Revelation of the Faith* (1884); *Christus Consummator* (1886); *Social Aspects of Christianity* (1887); *The Victory of the Cross* (1888); *Gifts for Ministry* (1889); *The Epistle to the Hebrews: Greek Text, with Notes and Essays* (1890); *Essays in the History of Religious Thought in the West* (1891); *Ideals* (1891); *The Incarnation and Common Life* (1893); *The Gospel of Life* (1893); *Some Lessons of the Revised Version of the New Testament* (1897); *Christian Aspects of Life* (1897); and *Lessons from Work* (1901). Not the least valuable labor of Bishop Westcott's life was that performed in connection with the revision of the Old and New Testaments.

Willoughby, Digby, an English adventurer, died June 4, 1901. He went to Madagascar during the French operations of 1884, won the confidence of the Prime Minister, and was appointed adjutant-general of the Malagasy army and entrusted with the whole management of military affairs. He raised and trained an army of 20,000 men which fought the French for two years. When the war was over he was sent as envoy to obtain the aid of the British Government in resisting the French annexation. He was cordially received in London, but not officially in the

capacity of a diplomatic representative, it being explained that as a British subject he could not represent a foreign government. After the Malagasy Government was finally suppressed he went to Rhodesia and commanded a force in the war with the Matabeles.

Yonge, Charlotte Mary, an English author, born in Otterbourne, near Winchester, Aug. 11, 1823; died there, March 24, 1901. She came of a good Hampshire family and was educated at home by her parents.

She wrote mainly for young people, especially young girls, and although an extremely prolific author, she led a very retired life, nearly all of it being spent in the tiny Hampshire hamlet where she was born. She was a firm believer in High Church ideas of doctrine and practise, and some of her early



books are a little narrow. As her literary sense developed, however, she became more just toward representatives of opinions differing from her own, and in her latest years had unconsciously come to occupy a much more liberal standpoint than formerly. Her readers included those of all communions and of none. A controversial tone is traceable in her first books, and some of them, like the famous *Heir of Redclyffe*, are rather morbid; but her skill in telling a story and remarkable gifts in the delineation of character outweighed her literary defects, and as her style matured these faults disappeared. The *Heir of Redclyffe* exercised a deep influence upon William Morris, Burne-Jones, and others of that group, while they were at Oxford, and, as Morris's biographer points out, it was the first book that affected him in any important way, he and his associates endeavoring for a time to pattern their lives after the life of the hero of the tale. The late Canon Dixon, after alluding to this circumstance, and his own long acquaintance with the book, pronounces the story "one of the finest books in the world." Miss Yonge devoted a large share of the proceeds from the sale of this book to the fitting out of a missionary schooner for the use of Bishop Selwyn of New Zealand, while the £2,000 received from the sale of *The Daisy Chain* were given by her toward the erection of a missionary college at Auckland. In 1898 Sir Walter Besant suggested that a university scholarship in the Winchester High School for Girls should be subscribed for by Miss Yonge's admirers and named in her honor. Nearly £2,000 were raised in this way, and in the year following the project was carried into effect. In 1893, on the occasion of her seventieth birthday, a bound volume containing 5,000 autographs of persons in all parts of the world who were admirers of her talents was presented to her. For thirty years she edited the *Monthly Packet*, a magazine primarily intended for young women, during the later years of her editorship sharing the duties with Miss Christabel Coleridge. The late Mrs. Oliphant wrote of Miss Yonge's novels that they "added quite a new world of excellent Church people, good, noble, and true, with all their fads

and little foolishnesses, all their habits of mind and speech, their delightful family affection, and human varieties of goodness, to an inferior universe, in which, with all its faults, there are so many such that a sympathetic and interested audience can never be wanting." In person Miss Yonge was tall, and in the latter portion of her life, at any rate, somewhat stout, with an abundance of white hair. Her manner upon a first introduction was constrained, and it was not always easy to draw her into conversation, but with better acquaintance the shyness wore away and she would talk with animation, having, as it would seem, a fund of anecdote and humor at command. Elderfield, her home at Otterbourne, is the last house at the southern end of the straggling village, and across the highway stand the parish school and church, the former owing much of its practical helpfulness to the novelist's supervision, and the latter rebuilt by her father in the later years of her girlhood. A few miles north is the vicarage of Hursley, the home of Miss Yonge's friend, the poet John Keble, for a generation the vicar of the two parishes. The following is a nearly complete list of Miss Yonge's published works, with the exception of translations from the French, which are not enumerated: *The Chateau de Melville*, a collection of French exercises and translations, the author's first book (1843); *Abbey Church* (1844); *Scenes and Characters* (1847); *Kings of England: A History for Young Children* (1848; abridged, with questions, 1851); *Langley School* (1850); *Hopes and Fears* (1850); *Kenneth* (1850); *Henrietta's Wish* (1850); *Two Guardians* (1852); *Landmarks of History: Ancient History* (1852); *Landmarks of History: Middle Ages* (1853); *The Heir of Redclyffe* (1853); *The Little Duke, or Richard the Fearless* (1854); *Castle Builders* (1854); *Heartsease* (1854); *History of Sir Thomas Thumb* (1855); *The Lances of Lynwood* (1855); *Leonard the Lion-hearted* (1856); *The Daisy Chain* (1856); *Ben Sylvester's Word* (1856); *Dynevor Terrace* (1857); *Instructive Picture-Book, or Lessons from the Vegetable World* (1857); *Landmarks of History: Modern History* (1857); *Christmas Mummings* (1858); *Marie Therese de Lamourous*, abridged from the French (1858); *Conversations on the Catechism* (1859); *Pigeon Pie: A Tale of the Roundhead Times* (1860); *Friarswood Post-Office* (1860); *Stokesley Secret* (1861); *The Young Stepmother* (1861); *Biographies of Good Women* (edited) (1862); *History of Christian Names* (1863); *Sea Spleenwort, and Other Stories* (1863); *Wars of Wapsburgh* (1863); *Countess Kate* (1863); *Historical Drama: Containing The Mice at Play, The Apple of Discord, The Stupid Falcon* (1864); *The Trial: More Links of the Daisy Chain* (1864); *A Book of Golden Deeds of All Times and All Lands* (1864); *The Prince and the Page* (1865); *The Clever Woman of the Family* (1865); *The Dove in the Eagle's Nest* (1866); *The Danvers Papers* (1867); *The Pupils of Saint John the Divine* (1867); *Six Cushions* (1867); *Cameos from English History, from Rollo to Edward II* (1868); *The Chaplet of Pearls* (1868); *New Ground* (1868); *A Book of Worthies gathered from the Old Histories and Written Anew* (1869); *Key-notes of the First Lessons for Every Day in the Year* (1869); *The Seal* (1869); *Musings on the Christian Year and Lyra Innocentium* (1870); *The Caged Lion* (1870); *Scripture Readings for Schools and Families* (1871); *A Parallel History of France and England* (1871); *Pioneers and Founders, or Recent Workers in the Mission Fields* (1871); *Little Lucy's Wonderful Globe* (1871); *P's and Q's, or the Question of Putting*

Upon (with C. Coleridge, 1872); *In Memoriam: Bishop Patteson* (1872); *Life of John Coleridge Patteson* (1873); *Lady Hester* (1873); *Chronicles of the House* (1873); *Aunt Charlotte's Stories of English History* (1873); *Aunt Charlotte's Stories of French History* (1874); *My Young Alcides* (1875); *Aunt Charlotte's Stories of English History* (1875); *Aunt Charlotte's Stories of French History* (1876); *The Three Brides* (1876); *Woman-kind* (1876); *Eighteen Centuries of Beginnings of Church History* (1876); *Aunt Charlotte's Stories of Roman History* (1877); *Aunt Charlotte's Stories of German History* (1877); *The Story of the Christians and Moors in Spain* (1878); *France: A History Primer* (1878); *Disturbing Elements in the Chronicles of the Blue Bell Society* (1878); *Magnum Bonum* (1879); *History of France* (1879); *Burnt Out* (1879); *Gold Dust: Counsels for the Sanctification* (1880); *Verses on the Gospels for Sundays and Holidays* (1880); *Love and Life* (1880); *Bye-Words* (1880); *Lads and Lasses of Langley* (1881); *Aunt Charlotte's Evenings at Home with the Poets* (1881); *How to Teach the New Testament* (1881); *Langley Little Ones* (1882); *Frank's Debt* (1882); *Cheap Jack* (1882); *Sowing and Sewing* (1882); *Pickle and his Page* (1882); *Talks about the Laws we Live Under* (1882); *Wolf* (1882); *Unknown to History: The Story of Mary of Scotland* (1882); *Stray Pearls* (1883); *Aunt Charlotte's Stories of American History, with H. H. Weld* (1883); *Langley Adventures* (1883); *Cameos from English History: England and Spain* (1883); *Landmarks of Recent History: 1770-1883* (1884); *The Armorer's Prentices* (1884); *Nuttie's Father* (1885); *The Two Sides of the Shield* (1885); *Chantry House* (1886); *The Little Rick Burners* (1886); *A Modern Telemachus* (1886); *Astray* (with M. Bramston, C. Coleridge, and E. Stuart) (1886); *Cameos from English History: The Stuart Rule* (1887); *Under the Storm* (1887); *The Victorian Half-Century* (1887); *What Books to Lend and What to Give* (1887); *Hannah More, a Biography* (1888); *Our New Mistress* (1888); *Nurse's Memories* (1888); *Preparation of Prayer-Book Lessons* (1888); *Life of H. R. H. the Prince Consort* (1889); *Beechcroft at Rockstone* (1889); *The Cunning Woman's Grandson* (1889); *A Reputed Changeling* (1889); *More Bye-words* (1890); *The Slaves of Sabinus* (1890); *The Constable's Tower* (1891); *That Stick* (1892); *An Old Woman's Outlook in a Hampshire Village* (1892); *The Cross-Roads* (1892); *Grisly Grisell, or the Laidly Lady of Whitburn* (1893); *Strolling Players* (with C. Coleridge) (1893); *The Cook and the Captive* (1894); *The Rubies of St. Lo* (1894); *The Carbonels* (1895); *The Long Vacation* (1895); *The Release, or Caroline's French Kindred* (1896); *The Wardship of Steepcombe* (1896); *The Pilgrimage of the Ben Beriah* (1897); *John Keble's Parishes* (1898); *The Patriots of Palestine* (1898); *The Herdboy and his Hermit* (1899); *The Making of a Missionary* (1900); *The Herb of the Field; and Railway Children*. A recent writer, in speaking of Miss Yonge's personality, says that "in spite of her excessive shyness, even a casual acquaintance would have been impressed with the directness and force of her character. Her eyes had a quick, responsive flash when anything moved her, and she was so full of eager human sympathy that a more intimate knowledge but deepened the impression that she herself was greater than anything she had done, and that she had missed, by just too much or too little, among the influences that shaped her life, the chance of writing her name with the immortals."

OHIO. (See under UNITED STATES.)

ONTARIO, a province of the Dominion of Canada; area, 222,000 square miles; population in 1901, 2,180,881. Capital Toronto.

Government.—With the opening of the year the Liberal Government entered upon the thirtieth year of its continuous existence, under different heads and with many individual changes. On Jan. 1, 1901, it was composed as follows: Prime Minister and Treasurer, George W. Ross; Attorney-General, John M. Gibson; Commissioner of Crown Lands, Elihu J. Davis; Commissioner of Public Works, F. R. Latchford; Provincial Secretary, J. R. Stratton; Minister of Education, Richard Harcourt; Minister of Agriculture, John Dryden; ministers without portfolio, James T. Garrow, William Harty.

The session of the Legislature was opened on Feb. 6 by Lieut.-Gov. Sir Oliver Mowat, G. C. M. G., with a speech from the throne, of which the following are the important passages:

"The valor displayed by the Canadian soldiers engaged in the South African War has reflected the highest honor upon Canada, and entitles them to some token of your appreciation. To this end, a bill will be submitted for your consideration authorizing the Crown Lands Department to set aside certain townships in the unorganized districts permitting every volunteer enrolled in the province who served in South Africa to choose 160 acres to be held upon the most favorable conditions compatible with the settlement of the public domain and the development of the district. Provision will also be made for the recognition of the survivors of the volunteer militia who were actually engaged in defensive service on the frontier during 1866.

"The agricultural classes during the past year have enjoyed unusual prosperity. Improved methods of farming and a more thoughtful application of the principles of sound husbandry, with the general adoption of cold storage by dairymen and fruit-growers, have greatly contributed to this happy condition of affairs. It has been found, by various tests conducted by the Department of Agriculture, that the soil and climate of Ontario are admirably adapted for the growth of sugar-beets. You will be asked to consider whether farmers should not be encouraged to give such special attention to beet-raising as will justify the establishment of factories for the production of beet-root sugar by granting such aid for this purpose as may be deemed expedient.

"The lumber-trade is in a prosperous condition, and the revenue from woods and forests continues buoyant, employment being abundant and wages high. The continued investment of capital in the erection of sawmills affords satisfactory evidence of the wisdom of requiring that logs cut on the Crown domain shall be sawn in our own country. The preservation of our forest wealth continues to engage the attention of my Government, and the recent setting apart of a large forest reserve in the pine region surrounding Lake Temagaming marks another step in this direction. The increasing flow of population to New Ontario is a matter of congratulation.

"I congratulate you on the great expansion of the mineral industry. The manufacture of pig iron in the province is now firmly established and is materially aided by the discovery of large bodies of conveniently situated hematite ore in the Michipicoten region. The making of the first open-hearth steel in the province and the establishment on the upper lakes of the first line of steamers to carry the ore from our own mines to the smelters of our own province are events significant of substantial progress. Nickel and copper

mining is more active than at any previous time, and it is gratifying to know that additional works for treatment of these ores are being erected in different parts of the province. Acting on the authority given to the Government by the appropriation made for exploring that part of the province lying toward Hudson Bay, exploration parties spent the greater part of the summer in investigating the agricultural, forest, and mineral resources of the several districts assigned to them.

"During the past year extensive alterations have been undertaken in connection with the buildings at Cobourg to meet the urgent demand for additional accommodation for the insane. These alterations are well advanced, and will, I trust, be completed before the close of the current year.

"Measures will be submitted for aiding in the improvement of public highways; for the encouragement of the trade in dressed meat for the European market; for abolishing tolls on public highways and bridges; for further encouraging technical education; and for consolidating the laws with respect to public and high schools and to liquor licenses."

The house was prorogued on April 15. The following were among the acts passed:

To provide for the appropriation of certain lands for the volunteers who served in South Africa and the volunteer militia who served on the frontier in 1866.

To amend the succession duties act.

Respecting the encouragement of the sugar-beet industry.

Respecting summary convictions.

To amend the registry act.

To amend the land titles act.

Amending the sawlog driving act.

To amend "an act respecting the licensing of extraprovincial corporations."

To facilitate the purchase of toll-roads by municipalities.

Respecting sanitary regulations in unorganized territories.

Further to improve the factories act.

To amend the Ontario shops regulation act.

To amend the Ontario fisheries act, 1900.

To consolidate the debenture debt of the city of Guelph.

To incorporate the city of Woodstock and for other purposes.

To incorporate the Chippewa and Niagara Falls Electric Railway Company.

To incorporate the Essex and Kent Radial Railway Company.

To incorporate the London, Aylmer and North Shore Electric Railway Company.

To incorporate the Magnetewan River Railway Company.

To incorporate the Niagara District, Wellandport and Dunnville Electric Railway Company.

To incorporate the Norwood and Apsley Railway Company.

To incorporate the Windsor, Essex and Lake Shore Rapid Railway Company.

Finances.—On Feb. 21 the Hon. G. W. Ross delivered his budget speech. The assets of the province on Dec. 31, 1901, were described as follow: Direct investments, \$251,243.60; funds held by the Dominion in behalf of the province, and upon which interest at the rate of 5 per cent. per annum is payable, \$4,758,135.15; common-school fund held by the Dominion on behalf of the provinces of Ontario and Quebec, and upon which interest is payable at the rate of 5 per cent., and divisible as between the province in ratio of last decen-

nial census (1891), \$1,492,475.84; bank balances, \$1,033,546.31—a total of \$7,535,400.90. The liabilities included the balance of an account current with the Dominion from confederation to date of \$1,815,848.89; common-school fund collections payable to the Dominion in trust, \$4,010.46; railway certificates estimated at present value, \$1,274,847.96; annuities estimated at present value, \$1,860,222.10—a total of \$4,954,929.41. These figures left a surplus of assets amounting to \$2,580,471.49. The receipts for the year were \$4,201,080.29, and the expenditures \$4,003,729.37. The balance in the banks on Jan. 1, 1900, was \$836,195.39, and on Dec. 1 of the same year it amounted to \$1,033,546.31. Mr. Ross pointed out that the receipts for 1900 were \$9,452.90 in excess of the estimates, and showed an actual surplus over expenditure of nearly \$200,000. The actual expenditure was \$99,991.67 less than the estimate.

Lieut.-Col. Arthur James Matheson, who for some years had been Opposition critic in financial matters, replied to the Treasurer. He declared that no correct view of the finances of the province had been given; that, instead of a surplus, there was actually a deficit this year as well as an expected one next year; that the sum of \$636,000—being a bonus on timber sales made in 1899 and a special matter—should not properly be included as regular receipts; that \$24,000 which had been received on capital account for drainage debentures should not be accounted as ordinary revenue; that certain special expenses, such as the cost of the London Normal School, the Cobourg Asylum, the National Patriotic fund, and the Ottawa Fire fund, should be deducted from the ordinary expenditures, leaving a practical deficit between regular revenue and expenditure of \$288,000.

The University.—The condition of Toronto University has been growing financially worse, and as it is controlled largely by the provincial Government, both political parties appear to have felt this year that something should be done to relieve the situation. On Feb. 27 Mr. Richard Harcourt, Minister of Education, spoke on the subject, and intimated that a definite scheme of aid to the university would shortly be submitted. He pointed out that during the past four years the deficits of the institution had aggregated \$31,600, and that the university had not been “doing all the work which its graduates and friends and the thinking public would expect it to do.” The important departments of mineralogy and geology were lacking in equipment, a building was wanted in connection with the teaching of physics, a physical laboratory was required, and general extension along the lines of industrial and commercial education was desirable. The minister went on to describe the measure of suitable Government aid as being “exactly the measure of the needs of the institution.” On the departments of mineralogy and geology the university now only spent \$2,000 a year, where similar institutions across the line expended \$50,000.

Mr. Whitney, the Opposition leader, while favoring assistance to the university in a general way, differed from Mr. Harcourt in believing that educational reform should begin at the bottom instead of at the top. “The only way to build a house is to start with the foundation. There is no use endeavoring to impart the higher education to a people not already well grounded. The vast number of the youth in this province will never go to the university, and therefore the first step to be taken is to improve the public schools.” Meanwhile the graduates of the university had been organizing an association in different parts

of the province, and on March 13 a large deputation waited upon the Government at Toronto. Dr. R. A. Reeve, president of the City Alumni Association, delivered an address in which he declared that the university belonged to the state as much as the custom-houses or the experimental farms. The Premier in his reply recognized the necessity of encouraging the scientific side of the university, deprecated the idea of the Government being expected to make the institution equal to the great universities of Germany or Great Britain, pointed out that the financial resources of Ontario were not unlimited, and concluded by promising aid in some form to be shortly indicated.

On March 21 Mr. Harcourt introduced into the Assembly “an act to amend the act respecting the University of Toronto and University College of Toronto.” By this measure, to the scientific department of the university was given a sum estimated at \$20,000 for the current year, in addition to the sum it already drew out of the previous Government grant for general university requirements. Land was also set apart for buildings for the mineralogy and geology departments and for an extension of the present School of Practical Science. A board of trustees was to be appointed to control financial and property matters, and to keep them apart from academic or educational affairs. A principal of University College was to be appointed distinct in function and position from the president of the university. Special provision was made for the possible entry of Trinity University into the federation of colleges known as the University of Toronto, and a site was reserved for new buildings, should it decide to do so. Various minor matters of reform and rearrangement were also defined and dealt with, the most important being the withdrawal of Government nominees from the university senate, only the Minister of Education remaining an *ex-officio* member. In addition to the specified financial conditions of the measure, it was announced on the succeeding day that a new building for the science department would be begun at once at an estimated cost of \$200,000. The proposals finally became law, though the university authorities did not consider them sufficiently liberal.

Land Grants to Soldiers.—On Feb. 20 the Hon. E. J. Davis moved the first reading in the Legislature of a bill granting certain lands to Ontario soldiers who had served in South Africa and to the survivors of those who had served against the Fenians in 1866. The minister explained the measure, and stated that 160 acres of land in either the free-grant section of New Ontario or the districts where a charge was now made to those taking up land, would be set apart for persons enrolled in the province for active service who had actually served in South Africa; for the next of kin of any who had met death in the war; and for members of the volunteer militia who could prove actual defensive service in 1866. All land so granted was to be free of settlement duties, provincial and municipal taxes (except school-rates) for ten years. If, however, the land was disposed of by the original owner within that period, then it was to become subject to the usual taxation. In order to prevent the possible locking up of large areas of land, no more than one location of 160 acres was to be allowed to the square mile. Nurses, chaplains, Red Cross commissioners, and newspaper correspondents were also to be entitled to these grants on the same conditions. The Government estimated the number eligible for this purpose at about 1,000. The measure was passed. The only extension of its provisions was

that by which the Fenian raid veterans of 1865 and 1870 were recognized, as well as those of 1866.

Good Roads.—The good-roads legislation of the session was a prominent feature. On Feb. 15 the Hon. Frank R. Latchford, Commissioner of Public Works, was attending a convention called at Ottawa to discuss the general question under the auspices of the county council of Carleton. He said the Ontario Government had \$1,000,000 of actual cash in the bank, and was prepared to grant financial aid to this amount toward the construction of good roads as soon as the municipalities had decided whether the county councils or the township councils should expend the money. On March 1 the Premier introduced a measure entitled "An Act for the improvement of the public highways," which provided that the sum of \$1,000,000 be set apart, to be paid out of the consolidated revenue of the province, for the improvement of its public roads. There were clauses including an arrangement for abolishing toll-gates and buying improved road-making machinery. The measure passed without opposition on April 11. There was, of course, some criticism in a general way from the Opposition. It was pointed out that the townships of Ontario had expended the following sums upon road building and repairing during a period of ten years: 1889, \$685,371; 1890, \$779,028; 1891, \$755,323; 1892, \$743,651; 1893, \$806,781; 1894, \$796,755; 1895, \$639,241; 1896, \$702,212; 1897, \$706,091; 1898, \$772,947.

Railways.—The most important legislation of the session was that connected with railway matters. On Jan. 16 the county council of Peterborough passed a memorial to the Lieutenant-Governor in Council, asking that aid be given to the Norwood and Apsley Railway Company, which proposed to open up a fertile and hitherto inaccessible region in the northeastern part of the country. Such a policy, it was said, would benefit 250,000 acres of Crown lands, develop a large mineral district rich in corundum and mica, and encourage tourist traffic through a country eminently suited for such purposes. The company was duly incorporated by an act that passed on March 29, and the final announcement of subsidies gave it \$3,000 a mile for 25 miles. Similar subsidies granted toward the end of the session included the Bracebridge and Trading Lake Railway of \$3,000 a mile for 16 miles; the Bruce Mines and Algoma Railway, \$3,000 a mile for 13 miles; the Port Arthur and St. Joseph Railway, \$2,000 a mile for 30 miles; the Grand Trunk Railway, \$10,000 for the construction of a spur line from Burk's Falls to the Magnetawan river; and a railway in Oso and Lanark townships, \$3,000 a mile for 25 miles.

The Premier, on April 2, introduced a measure in the Legislature granting to the Manitoulin and North Shore Railway Company 2,542,000 acres for the construction of 285 miles of railway with terminus at Meaford and Sudbury, and branches connecting Meaford with Owen Sound and Wiarton with Tobermory. Ice-boats were to be run in winter between Manitoulin island and Tobermory, and a general ferry service costing \$30,000 to be established; the Grand Trunk and Canadian Pacific Railways were to have equal running rights over the road; and Mr. F. H. Clergue, the capitalist of Sault Ste. Marie, owner of the charter, promised to place 1,000 settlers on the lands annually for ten years, and to construct a smelter on the line of the railway with a 300-ton capacity a day. Mr. Clergue, or the company, agreed to give the province full control over its passenger

and freight rates, and to grant running powers on fair terms over its lines to any other road. The line was to be completed by June, 1906. Mr. Whitney, in behalf of the Opposition, concurred in the second reading, and the measure passed unanimously to final reading on April 11.

New Ontario Development.—This subject was much discussed, partly on account of political considerations, partly because of actual material progress. The result of explorations under Government auspices, the mineral development of Michipicoten, the progress of the Clergue industries at Sault Ste. Marie, the encouragement afforded by the pulp-wood demands, and the conditions of projected railway schemes, all tended to keep this northern part of the province well in the public mind. On March 6, 1901, a large deputation waited upon the Hon. Mr. Sifton at Ottawa, and asked the Minister of the Interior for a grant of \$100,000 annually to encourage immigration to this part of the country. Sir L. H. Davies, Minister of Fisheries, was then waited upon and asked to establish a fish-hatchery for Lake Superior. He referred the matter to the Superintendent of Hatcheries. The Minister of Agriculture was asked for quarantine stations at Port Arthur and Fort William, while the Ministers of Public Works and Railways were requested to deepen the St. Lawrence to 21 feet, so that vessels from Halifax and St. John might ascend to Fort William without difficulty. The construction of breakwaters and the carrying out of dredging operations at Port Arthur and Fort William were also urged. They also wanted ice-breaking boats on Lake Superior, and a subsidy to an interprovincial line of steamers.

On March 11 the same deputation waited on the Ontario Government and asked for aid to bridges and colonization roads, aid for certain railways, increased representation, prolongation of the shooting season, and more system in looking after immigrants for New Ontario.

Education.—The Hon. Richard Harcourt, Minister of Education, published his annual report in February. The following summary of conditions are shown by it: School population (1899), 586,350; public-school registration, 429,227; number of public schools, 5,654; average attendance in public schools, 243,325; Roman Catholic separate schools, 352; average attendance in separate schools, 25,767; Protestant separate schools, 218; average attendance in Protestant separate schools, 216; number of kindergartens, 119; average kindergarten attendance, 4,701; number of night-schools, 16; average attendance at night-schools, 262; number of high schools and collegiate institutes, 130; pupils in high schools, 22,460; amount expended for public schoolhouses, \$322,403; total amount expended on public schools, \$4,020,048; total expended on high schools, \$722,239.

There was an increase during the year of 67 in the number of public schools, a decrease of \$23,185 in the amount expended upon them, and a decrease of 4,455 in the average attendance. The Roman Catholic separate schools showed an increase of 7 in number and 129 in average attendance; high schools showed a decrease of 3 in the number of teachers and 841 in attendance.

Crown Lands and Forests.—The Hon. E. J. Davis, Commissioner of Crown Lands, made his report public early in the year. The area sold in 1900 was 65,996 acres, having a total value of \$91,837, and on account of these and previous sales there was collected \$68,861. Crown lands for mining were leased to the extent of 27,835 acres, and the rental received for these and pre-

viously rented lands was \$69,714. Small quantities of clergy, common-school, grammar-school, railway, and university lands were also sold, and the total revenues of the department for the year were \$1,447,949. The total disbursements were \$272,257, including \$19,200 for mining schools, \$34,507 for explorations in northern Ontario, \$6,257 for immigration, and \$3,243 for colonization. The revenue from woods and forests was \$1,276,376, of which \$576,320 was timber dues.

There had been a continuous and increasing demand for pulp-wood, and the Sault Ste. Marie Pulp and Paper Company had operated their mechanical pulp-mill steadily through the year, besides adding a sulfite-mill of large capacity. The Spanish River Pulp and Paper Company was going on successfully. Regulations had been made to prohibit the export of spruce pulp-wood cut on Crown lands, as well as of hemlock-bark used for tanning. A forest reserve had been created near Lake Temagaming in Nipissing of 2,200 square miles. A similar region of 45,000 acres on Thunder Cape in Thunder Bay district had also been made a forest reserve.

Agriculture.—The annual report of the Ontario Bureau of Industries appeared in the summer. The total value of farm-land in Ontario had shown a steady decrease from 1891 to 1899, but it had risen from \$563,271,777 in the latter year to \$574,727,610 in 1900. Including, however, the value of buildings, implements, and live stock, the decrease had ceased in 1897, and the increase proceeded from \$905,093,613 in that year to \$974,814,931 in 1900. The value of farm-buildings in 1900 was \$219,488,370; of implements, \$57,324,130; of live stock, \$123,274,821. The statistics of wool showed in this year 957,307 fleeces of 5,805,921 pounds weight, and \$894,112 in value. There had been comparatively slight variations in the product and values during the preceding decade. There were 216,734 colonies of bees in the province, with a value (including outfit) of \$1,139,559, and a value per hive of \$5.26. Poultry numbered on July 1, 1900, 9,541,241, and were valued at \$2,727,363. There were 890,933 turkeys, 398,890 geese, 457,072 ducks, and the rest scattering. There were 3,164,287 poultry sold or killed during the year, and valued at \$1,176,740. On July 1, 1900, there were 1,771,641 hogs in the province worth \$9,598,153. Those sold or slaughtered during the year were 2,056,049 in number, and \$15,800,799 was received for them—an average price per head of \$7.69, as against \$8.68 in 1895. The number of sheep was 1,797,213, and the value \$7,711,496. Those sold or slaughtered were 690,058 in number, and \$2,872,609 in value. The cattle numbered 2,429,330, and were valued at \$56,320,810. Those sold or slaughtered were 560,893 in number, and valued at \$18,017,989. The horses numbered 617,309, valued at \$46,916,999, the great portion being working animals. Those sold during the year were 47,926, valued at \$3,774,480, or an average price of \$79. There were 2,694,600 acres of pasture ground in the province, 339,411 acres of orchard and garden, 10,687 acres of vineyard.

The cheese factories in operation during the year were 1,173 in number, the cheese made was 127,789,543 pounds, the gross value was \$13,023,025, and the amount paid to patrons for their milk was \$11,682,470. The number of creameries

was 308 in 1900, against 74 in 1895; the quantity of butter made was 9,011,168 pounds, worth \$1,819,290; the average price was 20 cents a pound, and the amount paid to patrons for their milk was \$1,589,291. The wages paid to farm laborers in 1882-1900 averaged \$157 per annum, including engagements, and \$155 in 1900. Without board, the rate was respectively \$250 and \$245.

Fisheries.—The Hon. F. R. Lacombe, Commissioner of Fisheries, presented his annual report on Feb. 25. It showed the net revenue for 1900 to have been \$35,443, and the expenditure \$28,612. The objection to fishermen to giving information was pointed out, owing, presumably, to their fear that it meant increased license fees or some curtailment of existing privileges. Licenses were granted to fishermen with 1,893,000 fathoms of gill-net, 471 pound-nets, 499 hoop-nets, 95 seines, 107 dip-nets, and several thousand baited hooks. The occupation gave employment to 2,502 men, 91 tugs, and 1,187 boats, with an estimated capital of \$789,042 invested in the industry. The aggregate catch was 25,698,591 pounds, a decrease of 1,789,888 pounds on the preceding year, and the value of the product was estimated at \$1,333,293. There was a falling off in the chief food fishes—whitefish, lake trout, herring, and pickerel—and a marked increase in the quantity of the coarser varieties taken. The deputy commissioner said that probably 95 per cent. of the whole catch in these waters was consumed in the United States. The hatcheries were doing good work, and 98,625,000 fry had been deposited in Ontario waters that year for the purpose of replenishing the drain on the whitefish and lake trout.

Mines.—The tenth report of the Ontario Bureau of Mines, prepared by T. W. Gibson, Director of the Bureau, gives the statistics for 1900. The points particularly noted in the report are the satisfactory advance of production in iron, nickel, and copper, the smaller output of gold, and the subsidence of speculative excitement in mining stocks. The number of companies chartered in 1900 was 48, with an authorized capital of \$35,818,999, against 74 in 1899 with an authorized capital of \$87,382,994. The Crown lands sold and granted under patent by the terms of the mines act amounted to 30,972 acres, at a price of \$69,195. There were 267 mining leases issued, covering 28,127 acres and realizing \$27,970 rental. The total value of the product of Ontario mines in 1900 was \$9,298,624, against \$8,416,673 in 1899 and \$7,235,877 in 1898. The number of employees in 1900 was 10,934, and the amount of wages paid was \$3,366,601. The principal products were valued as follow: Lime, \$544,000; brick and drain tiles, \$1,589,328; pressed and paving brick, \$141,369; sewer-pipe, \$130,635; pottery, \$157,449; petroleum and oils, \$1,684,327; paraffin wax and candles, \$184,718; natural gas, \$392,823; salt, \$324,477; building-stone, \$650,342; cement, \$698,015; iron ore, \$111,805; pig iron, \$936,066; nickel, \$756,626; copper, \$319,681; gold, \$297,861; silver, \$96,367. The chief increases during the year were \$153,794 in Portland cement, \$121,693 in petroleum products, \$86,854 in iron ore, \$127,909 in pig iron, \$230,522 in nickel, \$143,444 in copper. The main decreases were \$48,081 in natural gas and \$126,707 in gold.

OREGON. (See under UNITED STATES.)

P

PARAGUAY, a republic in South America. The Congress consists of a Senate of 13 members and a House of Representatives composed of 26

members. The President is elected for four years. Emilio Aceval was elected President for the term ending Nov. 25, 1902, and Hector Carvallo Vice-

President. The ministry at the beginning of 1901 was composed as follows: Minister of the Interior, Guillermo de los Rios; Minister of Foreign Affairs and Colonization, Fabio Queirolo; Minister of Finance, Francisco Campo; Minister of Justice, Worship, and Public Instruction, Dr. José T. Legal; Minister of War, Gen. J. A. Escarra.

Area and Population.—Paraguay has an area of 157,000 square miles. The population was estimated in 1898 at 432,000 whites and 100,000 Indians. There were about 13,000 foreigners, of whom 5,000 were Argentines, 2,500 Italians, 1,500 Spanish, 1,250 Germans, 800 French, 600 Brazilians, 600 Swiss, 450 Austrians, and 200 British. The number of immigrants in 1897 was 197, in 1898 it was 337, and in 1899 the number was 340, consisting of 113 Italians, 74 Spanish, 37 French, 46 British, and 70 Swiss, Germans, and Argentines. The Government has sold a great part of the public domains in large estates for grazing. The schools numbered 390 in 1897, with 700 teachers and 25,000 pupils. Attendance is compulsory. The college at Asuncion had 15 professors and 205 students in 1898.

Finances.—The revenue for 1898 was \$8,977,299, of which \$4,410,283 were derived from import duties, \$625,942 from export duties, \$950,408 from various taxes, \$417,364 from the agricultural bank, and \$1,073,215 by the issue of paper money. There were \$9,785,000 of notes in circulation at the close of 1898. Metallic money had disappeared, and gold was at a premium of 740 per cent. The expenditure in 1898 amounted to \$8,441,275, of which \$2,712,082 were for salaries, \$1,023,031 for interest and conversion of the debt, \$1,108,474 for the army and navy, and \$1,023,031 for public instruction. The revenue for 1900 was estimated at \$8,065,782, and expenditure at \$8,122,180, of which \$1,846,567 were for the Ministry of the Interior, \$2,469,663 for the Ministry of Finance, and \$645,852 for the Ministry of War and Marine.

A foreign debt of £1,505,400 sterling contracted in 1871 and 1872 was compromised in 1885 after several years of default by the issue of new bonds of the amount of £850,000 and grants of lands to the Anglo-Paraguayan Land Company to be distributed among the bondholders in lieu of arrears of interest. In 1892 interest was defaulted on the new bonds, and in 1895 another arrangement was made by which the rate of interest was reduced, bonds were given for arrears, and guarantees were afforded. The debt in 1900 stood at £994,600. There was also the debt of the Paraguayan Central Railroad guaranteed by the Government, amounting to £786,747, and the Government owed \$42,590 in gold to the National Bank. A debt of \$9,876,500 was due to Brazil, and one of \$12,393,600 to the Argentine Republic. The internal debt, including the note issues, amounted in 1898 to \$12,085,234.

Railroads, Posts, and Telegraphs.—The railroad from Asuncion to Pirapo has a length of 156 miles. The receipts in 1899 were \$1,247,973 from 538,524 passengers and 50,774 tons of freight. The length of telegraph-lines is 600 miles. The number of despatches in 1899 was 58,383. Asuncion is provided with telephones. The number of letters and other mail-matter that passed through the post-office in 1899 was 1,254,864.

Commerce and Production.—Next to the rearing of cattle the most important industry is the cultivation of yerba-maté. The Government has parted with the plantations in which this plant is grown, which are now in the hands of capitalists. The export of timber is large, and about 200,000 hides are exported annually to

Buenos Ayres and thence to the United States and Europe. Tobacco is cultivated, besides corn, beans, and other food products, and the agricultural colonies composed of immigrants from Europe raise fruit, coffee, rice, sugar-cane, peanuts, etc. A colony of Sicilians arrived in 1898. There were 2,500,000 cattle in Paraguay in 1899, and the horses numbered 300,000; mules and asses, 20,000; yaks, 10,000; sheep, 200,000; goats, 40,000; and hogs, 50,000.

The total value of imports in 1899 was \$2,147,838, and of exports \$2,021,023. The export of yerba-maté was valued at \$718,292; hides, \$441,308; tobacco, \$112,488. The number of vessels entered at Asuncion in 1898 was 418; cleared, 408.

PENNSYLVANIA. (See under UNITED STATES.)

PERSIA, an empire in central Asia. The reigning Emperor, called Shah in Shah, is Muzafer Eddin, born March 25, 1853, second son of Nasr Eddin, whom he succeeded on May 1, 1896. The Valiahd, or heir apparent, is Mohammed Ali Mirza, the Shah's eldest son, born in 1872. The Grand Vizier in the beginning of 1901 was Mirza Ali Ashgar Khan, appointed Aug. 11, 1898; Minister of Foreign Affairs, Mushir ed Dowleh; Minister of War, Amir Khan Sedar; Minister of the Interior, Dabir el Mulk.

Area and Population.—The area of Persia is estimated at 628,000 square miles, and the population at 9,000,000. The Europeans do not exceed 1,000. Teheran has about 250,000 inhabitants; Tabriz, 180,000; Ispahan, 80,000. There are numerous colleges supported by the Government in which the Mohammedan laws and religion are taught and both Persian and Arabic literature, with some knowledge of science. The polytechnic school at Teheran is conducted by European professors. Since 1898 the Minister of Public Instruction has introduced schools at Teheran, Ispahan, and other cities in which about 3,000 pupils are instructed on modern lines.

Finances.—The revenue is raised mostly by assessing towns and districts, the quota of each being changed from time to time according to their prosperity, or remitted altogether on account of poverty. The payments are part in cash and part in kind. The first foreign debt contracted by the Shah's Government was a loan of £500,000 obtained in 1892 from a British banking company for the purpose of paying an indemnity for the abrogation of a contract for a tobacco monopoly. This loan was redeemed with part of a loan obtained in 1900 from a Russian banking institution created for the purpose and countenanced by the Russian Government. The latter loan was 22,500,000 rubles in amount, paying 5 per cent. interest and secured by customs receipts. A further Russian loan of 17,500,000 rubles has been under consideration, its object being to provide means for the reorganization of the army.

Commerce and Production.—The fertile parts of Persia produce rice, wheat, barley, and other grains and fruits in abundance. The date-palm grows near the southern coast. Silk is produced in the country southwest of the Caspian, £400,000 worth in 1899, besides 532,546 kilograms of cocoons exported to Europe. Opium is grown in increasing quantities, and the Persian product is prized in Europe for medicinal extracts and in China for smoking. The quantity exported annually is about 3,500 chests, worth £462,000. The annual exports of tobacco are 5,500 tons; of cotton, 9,934,400 pounds; of wool, 9,000,000 pounds. The export of rugs is about £140,000 in value. The value of pearls from Debay, Shargheh, and other places on the Persian Gulf is estimated

at 3,000,000 rupees a year. Lead- and copper-mines have been worked from ancient times. Tin, antimony, zinc, nickel, cobalt, orpiment, manganese, iron, ochre, alum, borax, petroleum, and coal are found, and salt is abundant. The turquoise-mines, which have been operated from early times, yield the choicest stones found in the world. A Russian company has a concession for mining tin and other metals in Azerbaijan.

The value of the foreign commerce was estimated from the customs receipts at £7,500,000 sterling in 1890 and succeeding years, at £9,000,000 in 1898 and the same in 1899, and in 1900 at £10,500,000. The customs duties are 5 per cent. ad valorem for Europeans and from $1\frac{1}{2}$ to 8 per cent. for Persians. The customs duties were formerly farmed out to the highest bidders, who retained about a sixth. The farmers took advantage of the fall in the value of silver to increase their profits, in consequence of which the Government increased the farm money to £250,000 in 1895 and £300,000 in 1898. In 1899 the Government collected the revenues in Azerbaijan and some other provinces. The reform proved successful, and on March 21, 1900, the farm system was abolished altogether. The net receipts from customs for 1901 were expected to reach 400,000. Cotton goods, broadcloth, and other woolen stuffs, sugar, glass, carriages, tea, coffee, mineral oil, and drugs are the leading imports. The principal exports are dates, opium, silk, cotton, wool, carpets, pearls, tobacco, turquoises, rice, cotton stuffs, gum, pearl shells, skins, almonds, cereals, mastic, and horses.

The Army.—The present army is useless, although for nearly a century the Persian Government has employed European military instructors. The troops are raised by levies on the districts and tribes, and those who are taken are soldiers for life. A regular system of conscription was decreed by the late Shah, with service for twelve years, but it has not been carried into effect. The nominal strength of the army is 105,000 men, half of them considered as reserves. The number liable to be called into the service at any time is 53,520, consisting of 35,400 infantry, 3,300 irregular cavalry, 2,500 artillery, 90 camel artillery, and 100 engineers. The number kept under arms is about 25,500.

Railroads, Posts, and Telegraphs.—The only existing railroad in Persia is one built by a Belgian company from Teheran to Shah Abdolazim, 6 miles, completed in 1888. One from Amol to the Caspian was begun and left unfinished. The Russian Government is said to have undertaken to build a railroad from Julfa through Tabriz and Hamadan to Bunder Abbas and a branch to Teheran. In order to preserve the British and Indian trade with southern Persia, which was handicapped by the fact that goods had to be shipped by sea from Bombay or Karachi to Bunder Abbas and thence conveyed by mules or camels through Persia, the Indian Government established a direct caravan route from Quetta through Nushki to Seistan, from which point goods can be distributed all over Persia. In the northern and central parts of Persia Russian goods can be sold much cheaper than those from England or India, owing to the railroad. The trade by the camel route to Seistan has grown so rapidly in three or four years that a railroad from Quetta to the Persian frontier is contemplated. From 600,000 rupees in 1898 the trade by this route grew to 1,200,000 rupees in 1900. The telegraphs have a length of about 4,800 miles, with 7,000 miles of wire. The lines belonging to the Government have a length of 3,700 miles and are farmed

out to the Minister of Telegraphs for £26,000 a year. The post-office is farmed out for £26,000 to the Minister of Posts.

Internal Affairs.—The present Shah has introduced many reforms. He has abolished 8,000 superfluous offices, and has diminished his civil list by 150,000 krams. He abolished the system of farming the taxes. He published an edict of toleration. For the pilgrimages of the people to various holy places he made better provision. The financial reforms are expected to increase the revenue from 40,000,000 to 60,000,000 krams. The additional 20,000,000 krams, about £750,000 sterling, will be devoted to building roads and schools, in starting factories, in improving agricultural land, and in developing the resources of the country in other directions. The army has been reorganized on European models by Russian and Austrian officers. The Russian Government obtained control of the customs, except at Fars and ports of the Persian Gulf, by virtue of the loan made in 1900 to the Persian Government. The Russian officials who supervise the collections have placed obstacles in the way of the development of the new British route from India through Quetta by arbitrarily increasing the duties and by forbidding the Indian traders to go armed. The loan runs seventy-five years. The duties on Russian imports were increased to 5 per cent. in 1901, and the same tariff was imposed on Persian exports to Russia. The Russian Government, by granting a subsidy to steamers and an abatement of duties to merchants, established in 1901 regular steam communication between Odessa and the ports on the Persian Gulf. A great part of the trade that was once British has passed into Russian hands. Armenian merchants of Russian nationality are established in all the centers of population, and Persian traders become Russian subjects because as such they can secure the better protection of their rights and interests. The Armenian and Russian languages have been made obligatory subjects of study in Persian schools. New loan negotiations with Russia gave rise to suspicion and discontent in the summer of 1901. Members of the royal family participated in a movement against the Grand Vizier, who was denounced as having sold the interests of the country and blamed for not introducing reforms demanded by the people. Revolutionary placards were posted in Teheran, but the seditious movement was stopped by arresting and punishing their authors.

PERU, a republic in South America. The Congress consists of a Senate of 48 members and a House of Representatives containing at present 108 members. Members of both houses are elected for six years by the electoral colleges of the provinces, the deputies to which are elected by parochial electoral colleges. The President and the two Vice-Presidents are elected for four years by the direct vote of the nation. The President of the republic for the term beginning Sept. 8, 1899, is Eduardo de Romaña. The Vice-Presidents are Isaac Alzamora and Federigo Bresani. The Cabinet constituted on Oct. 31, 1900, was composed of the following members: President of the Council and Minister of Finance, Domingo Almenara; Minister of Foreign Affairs, F. de Osma y Pardo; Minister of Justice, Worship, and Public Instruction, Rafael Villanueva; Minister of the Interior and Police, Col. Zapata; Minister of War and Marine, Col. Portello; Minister of Public Works, Agustin Tovar.

Area and Population.—The area of Peru is estimated at 695,733 square miles. The population was officially estimated in 1896 at 4,609,999, exclusive of tribal Indians, who are numerous in

unexplored regions. In 1876 the census showed 2,621,844 persons. Instead of having increased, it is the opinion of independent observers that as the result of the foreign and civil wars and the neglect of sanitary precautions the population had decreased and does not now number more than 1,500,000.

Finances.—The revenue in 1899 amounted to 13,701,370 soles, and expenditure was 12,817,910 soles, not reckoning, however, liabilities incurred which remained unsatisfied because there were no appropriations. In 1900 the Congress failed to sanction the budget, in which revenue was estimated at 13,850,000 soles, and expenditure at 14,220,000 soles. Customs duties were expected to produce 6,890,000 soles; taxes, 5,267,000 soles; the salt monopoly, 600,000 soles; posts and telegraphs, 373,000 soles; and various sources, 720,000 soles. Of the expenditure 420,000 soles were for the Congress, 3,000,000 soles for the Ministry of the Interior, 800,000 soles for the Ministry of Foreign Affairs, 1,300,000 soles for the Ministry of Justice, 5,000,000 soles for the Ministry of Finance, 3,200,000 soles for the Ministry of War and Marine, and 500,000 soles for the Ministry of Public Works.

The foreign debt of Peru, amounting, with arrears of interest, to £22,998,651, was assumed in 1890 by the Peruvian Corporation. The internal debt is 46,003,000 soles.

The Army and Navy.—The standing army consists of 1,940 infantry, 625 cavalry, and 510 artillery; total, 3,075 officers and men. The navy consists of the cruiser Lima, of 1,700 tons, an armed transport, and 2 smaller steamers.

Commerce and Production.—The staple agricultural products are cotton, of which 6,172 tons were exported in 1898 and 5,876 tons in 1899; coffee, of which the export was 1,245 tons in 1898 and 1,215 tons in 1899; and sugar, covering 187,000 acres, the export having been 103,712 tons in 1898 and 102,789 tons in 1899. The Peruvian Corporation, which received 2,750,000 acres of Government lands, has introduced coffee-growing in central Peru. The guano islands seized by the Chilean Government in the war with Peru and Bolivia were restored and turned over with other public property to the Peruvian Corporation. Money obtained by Chile from sales of guano is held in escrow by the Bank of England. Cacao, rice, tobacco, wine and brandy, and corn are produced in various parts of the country. The coca plantations of La Libertad, containing 2,700,000 trees, produced 3,600 kilograms of unrefined cocaine for export to Hamburg in 1899, besides small shipments to New York and London. Cinchona and other medicinal plants of various kinds and dyes are minor articles of export. The export of sheep's wool in 1898 was 1,280,000 kilograms; of llama wool, 176,800 kilograms; of alpaca, 2,030,700 kilograms. The quantity of rubber shipped down the Amazon from Iquitos is more than 1,500 tons a year. There were 4,714 mineral claims in 1899, a large proportion of which were not worked. They include gold, silver, copper, lead, zinc, borax, quicksilver, coal, phosphate, salt, and sulfur mines and petroleum-wells. The number of mines in operation in 1901 was 2,500, giving employment to 70,000 workmen. The political stability created by the administration of Nicolas de Pierola and preserved under that of President Romaña has given rise to a great deal of mining, agricultural, manufacturing, and commercial enterprise, and this expansion has resulted in a marked improvement in the public finances. A company has been formed with Peruvian capital to drain the flooded silver-mines of the Cerro de Pasco. The high-grade copper ores

of this district are a more valuable national asset than the silver. American capitalists have studied the means of developing the copper-mines. The ore can be smelted with coal found in the neighborhood. The production of ore in 1901 was about 10,000 tons, containing 2,000 tons of copper. Other districts of Peru are also rich in copper. The production of sugar has almost doubled in ten years, amounting to about 140,000 tons in 1901. The cultivated area has been increased, and in a few years the crop is likely to reach 200,000 tons. The cane can be ground at any season of the year in Peru, and as the fields are irrigated it can be planted or cut at any time, but central machinery can not be employed as in Cuba, as the sugar lands lie in small valleys. Peruvian sugar is exported to the United States and Chile in increasing quantities, while exports to Great Britain, until lately the principal market, are diminishing.

The total value of imports in 1899 was 21,230,183 soles, and of exports 33,615,311 soles. Imports of cotton cloth were valued at 3,770,317 soles; provisions, 2,380,950 soles; woolen stuffs, 1,451,361 soles; furniture, 1,324,489 soles; wines and liquors, 365,856 soles. The mineral exports were valued at 10,667,013 soles; exports of sugar, 10,103,518 soles; of wool, 3,118,066 soles; of cotton, 1,787,478 soles; of hides, 783,440 soles; of cocaine, 675,075 soles; of borax, 611,124 soles; of coffee, 484,050 soles; of rice, 426,591 soles.

The values of imports from and exports to the several foreign countries in 1899 is given in soles in the following table:

COUNTRIES.	Imports.	Exports.
Great Britain	7,571,151	14,854,540
United States.....	2,183,109	5,146,531
Germany.....	3,451,516	3,357,231
Chile.....	1,525,656	4,940,373
France.....	1,733,954	749,626
Belgium.....	591,919	197,379
Italy.....	766,532	33,162
Bolivia.....	52,133	626,066
Ecuador.....	81,276	335,416
Spain.....	146,621	.....

Navigation.—The number of vessels entered at the port of Callao in 1899 was 488, of 611,163 tons, not counting 866 below 50 tons, having an aggregate tonnage of 12,024; cleared 486, of 613,975 tons, excluding all below 50 tons.

The merchant navy in 1898 consisted of 63 sailing vessels, of 26,752 tons, and 4 steamers, of 3,413 tons.

Railroads, Posts, and Telegraphs.—The length of railroads at the end of 1898 was 1,035 miles. The Government delivered to the Peruvian Corporation 844 miles, which with the railroads in the territory occupied by Chile had cost £36,000,000 sterling. The railroad terminating at Oroya will be carried on 80 miles farther to Cerro de Pasco, a concession for twenty-five years having been given to the contractor who has undertaken to build the extension through the mountains. The gross receipts of the railroads worked by the Peruvian Corporation were £427,365 in 1900, including those of the steamboat lines on Lake Titicaca and the Desaguadera river; operating expenses, £251,621; net receipts, £175,744.

The Government operated 1,400 miles of telegraph in 1897 and the Peruvian Corporation 533 miles. The number of messages was 121,492. There are 2,300 miles of telephones. The post-office in 1898 transmitted 12,190,000 pieces of mail-matter; receipts were 605,000 soles, and expenses 676,890 soles.

Political Affairs.—In the spring of 1901 the Peruvian representative in Santiago was recalled,

and the legation in the Chilean capital was abolished. In view of the unforeseen advantages Chile had reaped from the province of Tarapaca, which was annexed as the result of the war between the two countries, it was hoped in Peru that Chile would raise no difficulties in the way of the restoration of Tacna and Arica to Peru under the terms of the treaty of Ancon, concluded in 1883 and providing for a popular vote in those provinces at the end of ten years to determine whether they should be Chilean or Peruvian. When the stipulated time arrived Peru, on account of domestic disturbances, was not ready to act. Chile at that time seemed ready to give up the provinces if a satisfactory arrangement could be made with Bolivia. Later she made public improvements in the occupied territories and colonized them, and in the negotiations regarding the conditions of the plebiscite and in public declarations of policy has indicated a determination to retain these provinces permanently. Peru wished the question of the plebiscite to be submitted to the arbitration of a disinterested power, but to this the Chilean Government has steadfastly declined to agree. The Peruvian contention was that the original Peruvian inhabitants of the provinces should determine by the votes whether they be Chilean citizens or return to their former allegiance. The Chilean construction of the treaty, which is the more obvious one, is that Chileans and others who have settled in the territory since its occupation have an equal right with the Peruvian inhabitants regarding the fate of the provinces.

The internal situation of Peru in 1901 was free from disquietude. President Romaña, who at the time of his elevation had to face considerable hostility, succeeded in assuaging opposition by showing a disposition to work honestly for the good of the country. The corrupt practices formerly in vogue in the departments of the Government have been in a great measure extirpated, and system and order have been introduced where formerly there was neglect and confusion. The improvements in the spirit and the methods of the internal administration initiated by President Pierola have been faithfully carried on by his successor. The differences between the Peruvian Corporation and the Government have found no solution. In July arms and ammunition were imported and the reserves were partly mobilized in view of the critical state of the dispute with Chile, which the Government, with the support of most of the South American republics, wished to bring up before the Pan-American Congress at Mexico. Notwithstanding increased military outlay, the budget for 1902 was balanced with a surplus of 1,500,000 soles. The accounts for 1901 showed a surplus. When Congress met on July 29 President Romaña received assurances of the adhesion of all parties.

PHILIPPINE ISLANDS, formerly a colony of Spain, annexed to the United States by virtue of the treaty of Dec. 11, 1898. The islands were under military government in the beginning of 1901. The military governor was Major-Gen. Arthur MacArthur. There are about 600 islands, of which only 11 are of importance. They extend about 2,000 miles from north to south. There are steep volcanic ranges running through them. The forests cover large areas and there are immense swamps. The climate is moist and trying.

Area and Population.—The archipelago is divided geographically and in respect to the character of the population into the island of Luzon, the Visayan Islands, and Mindanao, with the Sulu Islands. The total area is estimated at 129,-

853 square miles and the population between 8,000,000 and 9,000,000. The population of Manila, the chief port and political capital, is about 350,000; of Lipa, 40,730; of Batangas, 39,360; of Laoang, 34,900; of Cebu, 35,240; of Argao, 34,050; of Albay, 31,000; of Taal, 33,380; of Carcar, 30,300; of Callayog, 30,250. The European residents in the islands are estimated at 25,000 in 1899. The largest island, Mindanao, with an area of 47,864 square miles. The estimated area of Luzon is 40,024 square miles. The other large islands are Samar, Negros, Panay, Mindoro, Leyte, Palawan, Cebu, Masbate, and Bohol. Leyte, formerly supposed to contain 2,713 square miles, has been found by recent surveys to have an area of 4,214 square miles. The area of the Sulu archipelago is 787 square miles. The number of Europeans in the islands, exclusive of the military, is about 25,000. There are about 100,000 Chinese, in whose hands are most of the principal industries. Further Chinese immigration was prohibited early in 1901 for the benefit of native labor and enterprise, although Chinamen are better qualified for manual labor and for carrying on the retail trade. The entire provincial trade has always been in their hands, the indolent habits and untrustworthy character of the natives rendering them unfit for business. The occupation of the islands by the Americans led to some white immigration, chiefly from the United States, and many American soldiers on receiving their discharge at the end of the term of enlistment have settled in the country.

Commerce and Production.—The Philippines were populous and productive even before their discovery by Europeans. The chief products are sugar, Manila hemp, tobacco, copra, coffee, and indigo. Rice, flour, wine, textile goods, kerosene oil, and coal are the largest imports. Hemp is exported mainly to the United States and Great Britain, sugar to China, the United States, and Europe, sapan-wood to China and Japan, cigars to Asia and Europe, leaf tobacco to Europe, and copra to Europe. Owing to the blockade of the smaller ports and the retention of produce by the insurgents, the exports were less in 1899 than in 1898. The export of hemp was 167,545,825 pounds, against 221,057,813 pounds; of sugar, 208,440,940 pounds, against 398,036,241 pounds; of sapan-wood, 760,000 pounds, against 2,614,133 pounds; of cigars, which are made in Manila, 134,849,000, against 129,840,000; of leaf tobacco 116,962 quarters, against 145,055 quarters; of copra, 38,842,933 pounds, against 35,330,133 pounds. Coal is found in many of the islands, and mines close to the sea have been opened in Cebu. Copper and silver are found. Iron has long been worked in Luzon. In Cebu a lead-mine is in operation. Petroleum has been discovered in several of the islands. The gold-fields of Luzon have attracted many American miners, some of whom have made their way into the country against the regulations and settled among the natives, while most of them have waited for order to be established and the mineral territory opened for the location of claims. Gold is found in all parts of the Philippines, and the natives have been skilful in washing for gold from early times. Most of the placer deposits have been therefore worked out. In the country of the Igorrotes, in northern Luzon, is an important gold-field which the natives guard from strangers, allowing no one to prospect even for quartz. They extract gold from quartz themselves by a crude process, pulverizing the ore with stone hammers, grinding the crushed quartz, and washing out the gold in coconut shells. In Camarines Norte, southeast

of Manila, is another gold-field. The northeast parts of Mindanao are believed to be very rich in gold, and it is found in the adjacent islands. The Igorrotes of Luzon are skilful in working copper also. Near Mount Data they have mined the metal for ages and make kettles of all sizes and a variety of implements. Other minerals of the Philippines are sulfur, kaolin, and marble. Platinum has been found in Mindanao. In the Sulu Islands are pearl fisheries. Hemp is produced in the Visayan Islands and in Mindanao, while tobacco and rice are grown in Luzon. The Mohammedan inhabitants of Mindanao gather edible birds'-nests on its shores and in the neighboring islands. For thousands of years there has been a trade between the Philippines and China in this delicacy and in sea-cucumbers, dyewoods, and gold, which last article was in ancient times the most valuable product of Luzon. Large herds of horses, cattle, and carabaos are raised in Mindanao, in which the most extensive and valuable forests are found. Coffee grows wild in that island. Fruits are abundant in the Philippines, including the pineapple, banana, sapote, mangosteen, orange, and lemon. Trade suffered greatly in 1900, owing to the closing of large districts where insurrections broke out and the suspension of agriculture over the greater part of the islands. There is a railroad, 120 miles long, in Luzon, the property of a British company. The telegraphs in the islands have a length of 720 miles. The principal banking-houses, the largest export and import houses, and the engineering and shipbuilding industries are carried on by British firms, and most of the shipping is British. Of the area capable of cultivation only a small part is tilled by the natives, who as a rule content themselves with growing a sufficiency for their subsistence, although there are few tropical products which could not be raised in the archipelago. The endemic cattle disease is a great drawback to agriculture. The opening of the ports after the termination of organized hostilities on the breaking up of the Filipino revolutionary government after the defeat of Aguinaldo's army and his flight led to a great increase of trade in the early months of the fiscal year ending June 30, 1901. There was a demand for imported goods to replenish exhausted stocks, and native products for export had accumulated. On a return to normal conditions the market depended upon trade with the interior, the condition of which depended on the progress made in the pacification of the different parts of the country. A Philippine tariff similar to that made for Porto Rico was drawn up at Washington and promulgated early in August, 1901. It was expected to produce a revenue of \$15,000,000 and incidentally reduce imports from other countries besides the United States and Spain to their advantage, and protect Philippine industries against the rivalry of other islands in the Pacific and Indian Oceans. The United States Supreme Court decided that the tariff, not having the sanction of Congress, therein differing from the Porto Rican act, was illegal, as the Philippines were not foreign territory, but territories appurtenant to the United States, the exact status of which, and that of the Filipinos, remained to be determined by Congress.

The Insurrection.—In the beginning of 1901 the American troops had posts all over the islands from which they made constant expeditions into the surrounding country at small cost. There were 60,000 soldiers and a small naval force. It was difficult to watch the coasts, and when the Filipino rebels were driven from one island they escaped to another, and there began operations afresh. They were unskilled and badly armed,

but sufficiently well led to avoid general engagements and to confine themselves to attacking the lines of communication. Their system of secret communication extended all over the islands. Many of the officials appointed by the Americans aided them, and very few of them were willing to risk their lives by informing on them. The rebels of the Filipino army who surrendered in many cases buried their arms first. The members of the guerrilla bands that still kept an army of 60,000 American soldiers busy could not be caught because when hard pressed they had only to conceal their arms, and were then peaceful inhabitants, claiming to be *amigos* until the soldiers had retired from the neighborhood. The deportation of the leading rebels and the confiscation of their property had a marked effect in checking native hostility. The Federal party, whose main principle was the sovereignty of the United States, with liberty to each citizen to pursue peacefully his political ideas, declared that the hour of peace had sounded, and won multitudes of adherents throughout the archipelago. The party heads, in a message sent to Washington in January, 1901, said that the more obstinate Filipinos declined to join the movement because, although they also were willing to accept American sovereignty, the prospect of an indefinite military government caused them to distrust the purposes of the United States, and thus delayed their submission. Congress was therefore petitioned to authorize the establishment of a purely civil government. Emilio Aguinaldo and the other rebel leaders at this time found no difficulty in finding money to keep their followers in the field. Citizens of Manila made secret donations to the cause, and hemp and other commodities were smuggled out of the country, paying heavy toll to the insurgents. The question of the friars was one of the principal causes of the hostility to American rule. The United States in the Paris treaty guaranteed the property of the monastic orders. The Spanish monks, possessing much of the richest land in the islands, were landlords and employers, and under the Spanish *régime* they filled the important cures and were allowed by the officials to exercise all civil authority in their parishes and districts. In the collection of church dues the monasteries ruthlessly despoiled the natives in much the same fashion as the civilian officials. The state and the clergy worked together in exploiting the people, and this was the cause of the great rebellion against Spanish rule. The most pressing demand of the revolutionists was the expulsion of the friars, and when the insurrectos became masters of the country they expelled them. The fear that they would be restored with the same powers under American rule helped to keep the rebellion alive. Monsignor Chapelle, who was sent by the Vatican as papal legate to report on the reconstruction of the religious institutions of the islands under American rule, found that in the absence of any control over the exercise of authority by the religious orders numerous abuses had arisen. The necessity of reform was recognized by the Vatican no less than by the American authorities.

After the enlightened and influential men among the Filipinos, including most of the leaders of the rebellion, accepted American sovereignty unreservedly, the military authorities had no difficulty in securing the aid of natives for military purposes. It was the local officials who were beyond the reach of supervision or protection and under the power and influence of insurrectos and ladrones who could not be trusted to be either loyal or honest. The Macabebe scouts proved

efficient and trustworthy auxiliaries. Among the insurgents the Americans had their spies and helpers, and they gained much information from those who were constantly coming in to give themselves up. As long as Aguinaldo, the president of the Filipino republic, remained at large, the rebellion could not be considered at an end. The leaders of rebels and ladrones who carried on operations independently in their own districts, often mainly for their own profit, however willing any of them might be to supplant or overthrow Aguinaldo if the Americans should evacuate the islands, all recognized his authority as head of the insurgent government. Although army and government and organized insurrection had ceased to exist and his direction was practically nil, still in him was personified the idea that enabled them to control their followers and levy tribute on the people. That wily chieftain, whose death had been reported to the Americans more than once, if he were to take the field at the head of a rebel band would invite a development of military strength that would soon lead to his being cornered and captured. He therefore hid himself for a long time in inaccessible retreats with only a few followers, keeping up communication with the active insurgents by means of couriers. In the beginning of February he decided to take a more active part in the rebellion, and accordingly sent out despatches ordering Simon Tecson, Sandico, and Baldomero Aguinaldo to send him troops. Cecilio Segismundo, who bore the letters and was expected to guide the first of the columns to Aguinaldo's hiding-place at Palanan, in the province of Isabela, delivered the letters into the hands of the Americans. Brig.-Gen. Frederick Funston thought out a ruse by which he could capture Aguinaldo, and submitted it to Gen. Wheaton. He was called to Manila to talk it over with Gen. MacArthur, and the commanding general, thinking that so great a stake was worth a great risk, gave his consent. Gen. Funston selected from his command in Nueva Ecija a company of 81 Macabebes who were familiar with the Tagalog tongue, steady, intelligent, and of good marching qualities. They were taken to Manila, and with them Hilario Placido, a Tagalo known to Aguinaldo, Lazaro Segovia, a Spaniard, Dionisio Bato and Gregorio Cadhit, Tagalos and ex-officers of the insurgent army, and Segismundo—Placido to play the part of the chief of the column, the Spaniard that of captain of the company, the Tagalos to act as lieutenants, the Macabebes as privates in a company of reinforcements sent according to his orders to Aguinaldo's camp, to which Segismundo should guide them according to directions. They were taken on board the gunboat Vicksburg and made to look as much as possible like insurgent soldiers by dressing them in uniforms of Aguinaldo's army, partly in the clothing of the country, which the rebels habitually wore since that army was broken up, so they could change themselves from combatants to non-combatants by simply concealing their rifles in a clump of bamboo. A Tagalo penman in San Isidro skilfully forged at the bottom of some sheets of writing-paper captured by Gen. Funston which bore the official seal of Gen. Lacuna the signature of that insurgent leader, and above this signature were written on two of the sheets two decoy letters to Aguinaldo. The Americans on the expedition were Gen. Funston, his aid, Lieut. Mitchell, Capt. and Lieut. Hazzard, the real officers of the Macabebe company, and Capt. Newton, who had been in Casiguran before on a daring adventure. These officers were disguised in the uniforms of Ameri-

can privates, part of a surveying party which the insurgents were supposed to have captured on the march, having killed the rest. The expedition started from Manila on March 6, landed in Casiguran Bay on March 13, marched 20 miles along the beach to the town of Casiguran, where they obtained a scanty supply of provisions from the alcalde, and on March 17, having sent forward to Aguinaldo the two forged letters of Lacuna and one from Hilario Placido, the pretended Filipino colonel, giving notice of the coming of his party with the American captives, they set out for a march of 90 miles by a muddy and rocky trail through woods, over mountains, across streams and swamps, and along the beach of the sea. When they came within 8 miles of Palanan an order was received from Aguinaldo to leave the Americans there. After marching a short distance a note was sent back to the Macabebe guard by Segovia saying that another messenger from Aguinaldo brought word for the prisoners to be sent on. This was shown to the Tagalo in charge of workmen who were building huts to shelter the American prisoners, and the officers with their guard of 11 Macabebes hastened after the main body, hiding in the bush when they met a party of Tagalo soldiers who were sent out to guard them in the huts. The column had in the meantime reached the Palanan river, and Segovia and Hilario were taken across to report to Aguinaldo, who was surrounded by 8 officers of his staff. While Segovia was telling a long story to fill the time, the Macabebes crossed in boats and lined up in front of Aguinaldo's escort, standing in line to receive them. As soon as the American officers came in sight on the opposite bank Segovia stepped out on some pretext and gave the order to Gregorio Cadhit, who shouted, "Now, Macabebes, your hour has arrived." The Macabebes in great excitement fired a ragged volley at the Tagalos drawn up near them, and these fled instantly, some throwing down their arms, 2 having been killed. Aguinaldo, thinking that the men were shooting to celebrate, stepped to the window and told them not to waste their ammunition. Hilario thereupon seized him and threw him to the floor, telling him that he was the prisoner of the Americans. Segovia fired at the others with his revolver, wounding Col. Villa, Aguinaldo's chief of staff. Dr. Santiago Barcelona, Aguinaldo's treasurer, gave himself up, but the others jumped through the window into the river. The Macabebes thronged in, and would have killed Aguinaldo if the American officers had not come up in time to prevent it. Aguinaldo's capture was effected on March 23, and on the following day the Vicksburg took the party on board in Palanan Bay and steamed back to Manila. Aguinaldo took the oath of allegiance to the United States and recognized the supreme authority of the American Government in the Philippines. On April 19 a manifesto declaring his allegiance to the United States was issued in his name. Col. Gonzalez, the insurgent governor of Manila province, surrendered at Malabon with his military staff and civil officials a few days after Aguinaldo's capture. After the publication of Aguinaldo's manifesto surrenders became frequent. Gen. Cailles gave himself up to Gen. Sumner on June 24, with his officers and 650 soldiers. On July 5 Gen. Bellarmino surrendered, with 1,000 men. Major-Gen. Adna R. Chaffee succeeded Gen. MacArthur as military governor of the Philippines on June 22. Col. Grant, while making a reconnaissance in the province of Batangas, captured Col. Martin Cabrera, an important leader. Gen. Mascardo surrendered in May, with 21 officers and

321 men. Aguinaldo had made an offer to secure the surrender of all the insurgent leaders on certain terms. The proposals were referred to Washington, and the Government declined to bargain with him, though any aid that he rendered would be taken into consideration in determining his future. Major Alhambra, who escaped by swimming when Aguinaldo was taken, remained in the neighborhood with Aguinaldo's body-guard. After he had kidnaped the alcalde of Casiguran on Sept. 12 he was pursued by a force which went to Baler on a steamer, and on Sept. 20 he surrendered, with 31 officers and men and their rifles. Between June 10 and Sept. 15 the number of Filipinos who gave themselves up was 361 officers and 3,638 men, while 26 officers and 494 men were captured. The officers captured were deported to Guam when their loyalty could not be depended upon. Aguinaldo was kept under guard in Manila. Excepting Malvar in Batangas province and Lukban in Samar, there were no important leaders still under arms in Luzon. In Batangas and Tayabas the worst form of guerrilla warfare was carried on by bands which were distributed along the roads and trails, lying in wait for travelers. Caballos, who refused to surrender with Gen. Cailles, was driven by the troops into the mountains. When the troops succeeded in breaking up the bands in Luzon and occupying the country so thoroughly that they could not carry on their operations, the rebels who were not captured or returned to peaceful occupations escaped to Samar and joined the force of Gen. Lukban.

In September there was a recrudescence of conspiracy and rebellion. A branch of the Katipunan Society was discovered at Tarlac, of which the presidente of Banoang, Marcelino Marivilla, was suspected of being the organizer. Some of the recently armed native constabulary joined the movement, the object of which was a sudden rising and slaughter of the whites. The police force at Banan, in Batangas, was disarmed. Some of the police and civil officials were placed on trial for furnishing information to the insurgents. When Major Braganza, an insurgent officer, was caught he was sentenced to be hanged for having massacred 103 Spanish prisoners. Miguel Malvar went over from Batangas into Bulacan province, where he enlisted men to recruit his force. The introduction of autonomous local administration gave opportunities for the fomentation and organization of insurrection. On the other hand it gave assurance to the peacefully and industrially inclined, who form the bulk of the agricultural population, that their apprehensions were unfounded. The people in the pacified parts of the country manifested a lively interest in their local affairs and in the promotion of reforms under American supervision. The expenditure of all the fines that were collected on schools and public works was a feature of American administration that they appreciated highly. Autonomous administration was introduced gradually, and was superintended in all its details by the American officers, as the Filipinos expect and require a large degree of paternal government. The successive formation of superior representative bodies encouraged the natives to take an active part in the management of local and provincial affairs, such as the construction of schools, public buildings and roads, the regulation of rivers, and the assessment and collection of taxes. Where local funds were insufficient the American Government came to their assistance. In the summer over 50 local representative bodies were in operation in Luzon. Local magistrates were appointed who were selected from among the lawyers of the

country and officials attached to the courts under the Spaniards. The policy of the Government was to appoint natives to all the offices for which fitting candidates could be found among them. To teach in the schools English and the elements of American education 600 qualified teachers were brought over from the United States and distributed by Superintendent Atkinson throughout the country in the districts where civil government had been introduced. Their situation was rendered more uncomfortable than they expected by the revocation by the military authorities of the order allowing commissary supplies to be sold at cost to civil employees as well as to the army, and they complained against this as a violation of the understood conditions on which they were engaged. In the commissary department a scandal occurred, the stealing and selling of stores by two or three officers in connivance with merchants, that was a blot on the American administration. An officer, too, was accused of abetting foreign and American traders in illicit trading with insurgents in the blockaded ports. These isolated instances, instead of undoing the effect of the example of honesty and duty set before the natives, by the punishment of the offenders confirmed their respect for the honesty and disinterestedness of the American military administration, in contrast with the corruption and extortion of the Spanish régime. The United States forces in the Philippines were composed of the best material for dealing with guerrillas, possessing not only courage and the strength to bear fatigue, but quickness of sight, marksmanship, and capacity for individual initiative. During the three years from June 30, 1898, till June 30, 1901, the number of soldiers who served in the Philippines was 3,477 officers and 108,800 enlisted men, 61,275 of the total being regulars and 50,002 volunteers. Of the total number 619 were killed and 219 died of wounds. The deaths from all causes were 3,493. The percentage of desertions was 4.3. Of the non-commissioned officers 200 were commissioned. The army in the Philippines in September numbered 43,239 officers and men. In the middle of September the provinces of Batangas and Laguna in Luzon, and the islands of Samar, Mindoro, Cebu, and Bohor were the only areas disturbed by armed bodies of insurgents. In order to guard against the mischievous action of Sixto Lopez and other emissaries and agents of the insurgents who were seeking sympathy and aid in the United States and Europe, the Philippine Commission made a law requiring all persons suspected of having aided or abetted the insurgents on arriving in Philippine ports to take the oath of allegiance to the United States.

The confidence of the Filipinos in general in the American administration was evinced by the resumption and extension of agricultural operations except in the disturbed part of Luzon and in Samar. In Mindoro the insurgents were effectually suppressed by a small force under Capt. Pitcher. In Panay all signs of rebellion ceased in the summer. The autonomous civil administration, however, was not satisfactory, owing to the differences between the two principal officials. The provincial governor was Martin Delgado, formerly the commander of the revolutionary forces in the island. José Gay, who was appointed alcalde of Iloilo, had offended him by going over to the Americans, and the feud was continued when Delgado became his superior under American rule. The administration made progress in spite of their quarrels. The people paid their cedula taxes and applied themselves again to the cultivation of sugar and hemp. In Bohor the in-

surgeons were suppressed without difficulty. In Cebu the civil government experienced much difficulty. The insurgents, who were never brought under thorough control, grew bolder when the American garrison was changed. They frequently fired into the town from the hills, and attacked American detachments near headquarters. The civil government was changed by Gen. Chaffee for military rule again. The people there had been made to believe that the Americans would bring back the friars. The uncertainty of American policy regarding religious orders had much to do with keeping the spirit of rebellion alive in all parts of the Philippines. The restoration of the property of the monasteries that the insurgents had confiscated was a certainty, and the persons who had profited by the confiscation or had been guilty of crimes against the friars had strong motives for resisting the establishment of American rule. From the period when the insurgents came into power a growing indifference to religion was observable in all classes. The authorities of the Catholic Church were therefore anxious to have order restored and to give to the people priests who would be acceptable to them.

In Mindanao, peopled by different races of different religions and forms of government, Gen. Kobbe was confronted by problems demanding diplomatic handling. He established friendly relations with the Moros, some of whom cooperated with him in suppressing the Filipino insurgents. The American Government made no attempt to interfere with the native government and customs of the Mohammedan peoples living in Mindanao and Sulu, making no declaration even against polygamy or slavery. The native rulers were left in the independent position they had always asserted under Spanish dominion. Datto Mandi, who rules the Moros about Zamboango, voluntarily issued a proclamation abolishing slavery. Moro children attended the schools opened in Zamboango, which were soon filled in excess of their accommodations. Rufino de Losa, who formerly served under Gen. Capistrano, attempted to raise a fresh insurrection in the summer. In a very short time he was forced to retreat into the mountains, where his men deserted him. In Jolo the sultan waged war against the Dattos Calve and Joakainin. The officers in Major Sweet's command patched up a truce several times, but the difficulties always broke out afresh. They decided therefore to let the quarrelsome chiefs settle their affairs by fighting, which would produce a more lasting peace and would use up their ammunition, which could not easily be replenished under the new regulations. The casualties in two months' fighting, at the end of which the sultan had the rebel chiefs at his mercy, did not exceed 50 men, but many women and large numbers of cattle were carried off.

The Visayan Islands with the exception of Samar were thoroughly pacified, because a vigorous campaign had been necessary to stamp out the insurrection in each of them. In Panay, now prospering under civil rule, 4,000 troops had been employed and active operations lasted two years. In Leyte 1,600 troops had required fifteen months to establish American supremacy. They fought 400 engagements, and during the operations roads were constructed as fast as possible. Gen. Hughes, whose command embraced Panay and Leyte, had Samar added to it. The accessions to the rebel force from Luzon gave the insurgents greater influence and control over the natives of the island, who number about 200,000 and are particularly fickle and deceitful Malays, ready to take the oath of allegiance and live for months

on the best of terms with the troops, but open to the influence of the insurgent and capable of any treachery. The island, which had never completely occupied by the Spaniards, had received but little attention from the Americans because no active resistance was offered to their occupation of the coast towns, becoming a base to which all the irreconcilable and outlaws of insurgents and banditti fled for safety when they were driven out of the other Visayan islands and out of Luzon. The bad characters of the whole archipelago gathered there and compelled or prevailed upon many of the natives to join their forces. They violated all the rules of civilized warfare. As this was the principal remaining focus of rebellion a considerable American force, set free by the pacification of the other islands, was concentrated there. Gen. Hughes made progress in fighting the insurgents before the rains set in, about Aug. 1. The insurgents were at least driven away from the hills from which they shot into the town itself, and the troops pursued them with vigor. Gunboats ascended the streams 25 or 30 miles, but were unable to go farther on account of their deep draft. There were 20 American garrisons. On July 26 a body of 500 insurgents surrendered. The rest were split up into bands, the largest numbering not more than 50 men. Samar is a particularly difficult island for military operations, as it is without roads, communications being carried on mainly by water. The surface is made up of wooded mountains and deep valleys covered with swamps and jungle. While active hostilities were in progress in Luzon and in Panay, Negros, and other islands on which the republican government of the Tagalos attempted to introduce its rule, this island was comparatively neglected; and when civil government was installed in most of the islands, this was one of the few left under military rule. Although it is after Mindanao and Luzon the largest of the Philippines, there were only 6 military posts occupied at the beginning of 1901. The island seemed to be under complete control, and civil government was established in the towns after Gen. Hughes had taken matters in hand and posted garrisons in all the towns to protect the authorities and inhabitants from incursions by the insurgents, who had been driven into the central mountains, roving bands of them committing murders and robberies on the defenseless, but not attempting to attack the Americans since the arrival of reinforcements. The insurgents were not believed to have over 300 rifles on the island. The garrison at Balangiga consisted of a company of the Ninth Infantry, 75 strong. On Sept. 28, while the men were at breakfast, the presidente and a party of the townspeople advanced in a friendly manner until they got between them and their stacked rifles, and then fell upon them with their bolos, killing Capt. T. W. Connell, Lieut. E. A. Bumpus, Surgeon R. S. Griswold, and 48 men, while 24, half of them wounded, escaped to Basei. The bodies of the murdered soldiers were mutilated and burned. Some of the attacking party carried rifles which the United States authorities had supplied them with for their defense against the insurgents. When the soldiers of the massacred company took up their quarters in the town a short time before they were received with music and feasts. The result was an entire lack of watchfulness. As soon as the disaster was known at Catabalogan a sufficient force of American regulars and Macabebes was sent to Balangiga, and the inhabitants of the place fled into the mountains. Gen. Hughes soon had 3,600 troops in the island and began a vigorous cam-

paign. The river valleys were effectually occupied by the aid of light gunboats, and flying columns were sent into the hills, giving the insurgents no rest. The central objective of the movement was the Pambujan mountain, in the center of the island. No large bodies of insurgents were found. Before operations were well begun a detachment of 46 men of the Ninth Infantry was attacked on the Gandara river at Bangabon, and 10 men were killed and 6 wounded before the rest of the company came up and put the bolomen to flight, killing more than 100. While the operations for stamping out the insurrection in Samar were proceeding, the marines cooperating with the army on the rivers and ports, Rear-Admiral Frederick Rogers with 27 war vessels, nearly his entire naval force, patrolled the coasts of the island to prevent the escape of the insurgents by sea and the landing of munitions. Gen. Smith, commanding the troops, issued a notice ordering all the people to concentrate in the towns; otherwise they would be considered enemies and treated accordingly. Francisco de Jesus, Gen. Lukban's commissary officer, was captured with papers on his person, implicating many of the chief civil officials of the island of Leyte, and these were arrested. The ports of Leyte were closed and all sales of hemp forbidden except in small quantities in exchange for food under the supervision of the military. The presidentes of Samar were threatened with deportation to Guam if they harbored the persons who committed the massacre of Balangiga or connived in the concealment of arms, and villages were threatened with destruction if guilty of the same acts. Several towns in the south of Samar were destroyed. A detachment of 12 soldiers was attacked at San Antonio by 140 bolomen, and 2 were killed and 2 wounded. Sergeant Willford and the others repelled the furious attack, killing 14 of the enemy. Major Waller shelled the rebel stronghold of Sajopan, near Basei, on Nov. 6, and on the following day stormed the position, killing 26 insurgents, while 2 marines fell in the action.

While the troops were crushing the insurrection in Samar and the budding movement in Leyte was checked before any outbreak, the insurgents of Cebu, who had been led to believe that the American troops were being withdrawn from the Philippines, lost all heart on seeing this development of strength. Their main force, numbering 60 officers and 450 men, surrendered and gave up 150 rifles and 8 brass cannons. The insurgents in Samar, the men who had the rifles, withdrew to the fastnesses of the western part of the island. Simultaneously the insurgents in the disturbed parts of Luzon redoubled their activity. A sharp fight occurred near Candelaria before the end of September, in which 1 American was killed and 1 wounded, the object of Capt. Hearn being to capture some stores of rice and ammunition, which was attained. A detachment of the Twenty-first Infantry and a company of Macabebes, encountering over 300 insurgents strongly entrenched near Lipa, had to retreat. The police of Catanag, in the province of Tayabas, 11 men armed with carbines and revolvers, were reported as having been made captives by the insurgents, but were probably willing captives. On Oct. 24 insurgents attacked San José, in Batangas, and in spite of the spirited defense offered by the garrison succeeded in burning the town. At Taysan, in the same province, two companies of the First Cavalry drove a band of insurgents into the mountains and destroyed their camp and stores. In central Luzon, as the result of Malvar's recruiting, bands of from 25 to 50 endeavored to concen-

trate. Notices were posted on church doors urging that the work of organization should be completed by January. Alarm was felt in Manila, where the force was only 1,200, including the metropolitan police, but not the native police, who were not believed to be trustworthy. The United States Government decided to send out fresh troops to replace those whose time had expired.

Gen. Chaffee considered the physical conformation of the country, the nature of the warfare of the rebels, who could be *amigos* and *enemigos* in the same hour, the humanity of the troops, which was taken advantage of by the rebels and the inhabitants in sympathy with them, and the fear of assassination on the part of those who were friendly in case they gave information to the American forces, to be sufficient reasons for the prolongation of the guerrilla warfare. The gradual replacing of military with civil administration and the cessation of interference with civil affairs does not, in his view, involve the withdrawal of troops from their stations to any considerable extent. That should not take place hastily, and when it is undertaken it should be gradual and more in the nature of concentration than of a reduction of force or the abandonment of any considerable area of territory. The military governor advised against any further material reduction of troops before Jan. 1, 1903. The civil government that was being organized is new and untried, and the observation of the army affords the only reliable method of ascertaining the progress of the Filipinos in self-government.

PHYSICS, PROGRESS OF, IN 1901. Mechanics; Constitution and Properties of Matter. *Gravitation.*—Eötvös (International Physical Congress at Paris, Report, 3, p. 371, 1900) has determined by a torsion-balance method the derivatives of the components of gravity in the neighborhood of a point. The method gives indications of underground rocks and their distribution, and is more sensitive than any pendulum method. Bessel's conclusion that attraction is independent of the nature of the attracting masses to within $\frac{1}{100000}$ has been pushed much farther, and it is shown that the sun's attraction is not modified one-hundred-millionth part by the interposition of 1 kilometer's thickness of the earth's crust. Similar methods have been applied to the exploration of magnetic fields. R. A. Fessenden (Electrical World and Engineer, Sept. 29, 1900) explains gravitation as a secondary electric effect. The chief results may be summarized as follow: (1) "All simple dielectrics expand under electric stress. The expansion varies as the square of the electric intensity or voltivity, and inversely as the elasticity." (2) When a dielectric is placed in an electric field, there is a change in the density of the substance, and in the density of the ether. The former gives Kerr's phenomenon, the latter alters the weight of the condenser. (3) The value of the electrostatic stress at the surface of a corpuscle is of the order 10^{20} , and the elasticity of the ether has been shown to be of the order 6×10^{20} . There is accordingly an enormous stress next the corpuscle, producing a change of density whose amount varies inversely with the fourth power of the distance from the center of the corpuscle while the total expansion varies inversely as the square. Newton showed that change of density in the medium around a particle would account for gravitation, and the present method gives an effect of approximately the right order. Thus (4) "inertia is an electromagnetic induction effect due to the corpuscular charge. (5) Gravitation is a secondary effect, the electrostatic intensity due to

the corpuscular charge causing a change of density in the ether surrounding it, this latter giving the gravitational attraction." Grounds are adduced for holding that (6) "gravitational force is propagated at practically infinite velocity as an expansional wave."

Molecular Theories.—J. J. Thomson (Paris Physical Congress Report, 1900, 3, p. 138) elaborates his new theory of subatomic corpuscles, starting from an estimation of the mass of cathode-ray corpuscles in which he concludes that each has about $\frac{1}{1800}$ the mass of a hydrogen atom. We have thus, he says, a new state of matter, consisting of corpuscles whose mass is the same, no matter from what material they may be derived. Each carries a fixed charge of negative electricity. The corpuscular condition is presented not only in cathode and Lenard rays, but also near a metal plate under ultra-violet light, near a filament incandescent in a very high vacuum, and in the radiations from radio-active substances. The author thinks that it also exists throughout metals and causes their conductivity. Under an electric force, the corpuscles in the metal move in an opposed direction with their charges, and the metal appears to carry current. If they travel to a cooler part of the metal, they carry kinetic energy with them; whence thermal conductivity. If we calculate on this theory the ratio of the thermal to the electric conductivity, the result is fairly in accordance with facts, but is not quite conclusive; and the observed ratio is not exactly the same in all metals, as it should be on this theory. Each molecule of bismuth seems to shed and reabsorb corpuscles about 40,000,000 times per second on the average; molecules of other metals much oftener than this. W. Voigt (Annalen der Physik, March) criticizes the older views as to solids. He attacks the theory that the behavior of a solid is expressible by a few constants throughout its substance, including the surface, and also objects to the application of the laws of homogeneous strain without modification to heterogeneous strain. The author concludes that much searching experiment is needed before a satisfactory theory of solids can be framed.

Relations of Ether and Matter.—Kelvin (Philosophical Magazine, July), in discussing the relative motion of ether and ponderable bodies, suggests that as Fresnel's and Young's hypotheses are inconsistent with the elastic-solid theory of ether, we may have to relinquish the doctrine that two portions of matter can not jointly occupy the same space. Ponderable bodies may then be assumed not to displace ether as they move, while each atom alters the density distribution of the ether within the space which it occupies itself. This hypothesis will explain (1) how matter can act on ether so as to produce light, (2) why the speed of light is less in transparent ponderable matter than in pure ether, and (3) the aberration of light. It is inconsistent, however, with Michelson and Morley's experimental conclusion that ether in the earth's atmosphere is motionless relatively to the earth unless indeed the motion of ether through matter alters its linear dimensions. In a subsequent article (ibid., August) the author asserts that we have strong reason for believing the density of ether to be constant throughout space, and that this density (water being unity) should be not less than 5×10^{-18} . He concludes that ether and matter are not mutually exclusive, but may freely occupy the same space, or interpenetrate each other. He also asserts that the mean density of ponderable matter throughout any very large spherical volume in space is less the greater the radius. W. Wien (Archives Néer-

landaises, 5, p. 96, 1900) advances the view that the most promising direction for the future work in mechanics and electricity lies in the reversal of the usual methods, and the seeking of a possible electromagnetic theory of mechanics instead of a mechanical theory of electromagnetism. The writer takes as fundamental the conception of the electric and magnetic polarizations of the ether, and develops his equations from this, assuming also that mechanical phenomena are electromagnetic, and further that what is termed matter is made up of the positive and negative electric quantities or elements which we regard as the convergence points of the lines of force. The ether is regarded as at rest, and the electric quantities are the only ones supposed to change position. All forces are considered to be electromagnetic and due to stresses in the ether. By different groupings of positive and negative quantities at different distances very complex effects may be obtained, and the author thus believes it possible to reconcile Michelson's interference experiment with the theory of the ether at rest. For Lorentz has shown that the length of a body in the direction of the earth's motion is shortened if the molecular forces can be replaced by electrostatic forces. Hence Michelson's result is explained, if we can apply this to the molecular motions. L. Graetz (Annalen der Physik, May 29), in an attempt at a mechanical representation of electric and magnetic phenomena, arrives at the conclusion that in a vacuum ether behaves as an elastic body. In ponderable bodies action takes place between the disturbed ether and the molecules, which action is electrostatic force, those parts of a substance where it continues to exist being ions. Magnetic polarization is the torsion of ether, while electric forces, other than electrostatic, are its translation velocities. The so-called true magnetization has neither existence nor meaning. True electrification is the excess of the included ether above the normal. Electric conduction consists in the motion of molecules. The motions of matter and ether are not independent. The theory can easily be extended to explain the phenomena of dispersion.

Hardness.—F. Auerbach (Annalen der Physik, September, 1900) defines hardness for the case of plastic bodies, including metals, by the limiting pressure per unit surface attainable between a lens and a plate of the same substance. He gives the following table of the hardnesses of various fairly well-defined metals, as compared with minerals:

Steel.....	361	Quartz.
Copper (hard).....	143	
Bronze.....	127	Apatite.
Brass.....	107	Feldspar.
Gold.....	97	
Copper.....	95	Calc spar.
Silver.....	91	
Aluminum.....	52	Boric acid.
Lead.....	10	Gypsum.

C. Benedicks (Zeitschrift für Physikalische Chemie, April 2) notes that the hardness of steel depends on the formation of a homogeneous solid solution of carbide (C_2Fe_3) with iron, while in soft steel the carbide is only mechanically mixed with the iron. As in general a solvent expands only slightly on dissolving small quantities of foreign substances, such solution increases the number of atoms present in a given volume, or the atomic concentration (density \div atomic weight). Bottonne has shown that for 24 pure metals the hardness is proportional to the atomic concentration, but, by Avogadro's law, atomic concentration in gases determines their pressure, and analogy therefore suggests that hardness in simple bodies

may be of the character of a pressure. The hardness of solid solutions—i. e., of alloys—will thus be of the nature of an osmotic pressure, and this conclusion explains the varied hardness of iron when alloyed with different metals.

Viscosity.—R. Reiger (Physikalische Zeitschrift, Jan. 5), from a study of the "time of relaxation" in colophonium gelatin, and chilled glass, finds that in their plastic state these substances show a relaxation in accordance with Maxwell's theory, whereas in the hard state the viscosity rises first to a maximum before relaxation sets in. With falling temperatures the time of relaxation and the viscosity increase rapidly.

Elasticity.—M. Cantone and G. Contino (Nuovo Cimento, 1900) have studied the influence of traction and torsion on the red variety of caoutchouc, and also its thermal expansion. As the load increases there is an increase in the modulus, and not a diminution as postulated by Villari and Röntgen. This is opposed to the behavior of the metals. As regards torsion, the material behaves in essentially the same manner as do the hard metals. Rudeloff has investigated the influence of heat on elasticity in cast iron, cast steel, beaten bronze, and lead by bending and stretching rods at various temperatures. Most metals were found to be as strong for small loads at fairly high temperatures as at low temperatures; but for greater loads they are much weaker. A. Gray, V. J. Blyth, and J. S. Dunlop (Royal Society Proceedings, Oct. 31, 1900) have determined the Young's and rigidity moduli of metal wires at different temperatures between that of the atmosphere and 100° C. German silver, mild steel, brass, copper (commercial), copper (hard-drawn electrolytic), and soft iron were tested. In determining the rigidity moduli by the vibration method, the authors noticed that the decrement of the vibrations appears to be a function of the temperature and of the amplitude. In German silver the decrement is smaller at the high temperatures instead of larger as in the others. A. Lafay (Annales de Chimie et de Physique, June) has measured the deformations of two steel or bronze spheres in contact under different pressures; also the deformations when a sphere is in contact with a plane surface. Hertz's mathematical analysis of the problem only imperfectly represents the real phenomena, and in particular his conclusion that the diminution of distance between centers of two bodies varies as the two-thirds power of the pressure is only true where the deformations are relatively large. The divergence from theory becomes greater as the deformations become less, notwithstanding the fact that the theory is based on conditions of small deformation.

Rigidity.—T. C. Hebb (Transactions of the Nova Scotian Institute, 10, pp. 273-286, 1900) has confirmed the experiments of W. A. Macdonald which show that the rigidity (kinetically determined) of a fresh or partially fatigued vulcanized rubber cord, when subjected to increasing tension, at first diminishes, then reaches a minimum, and finally increases. In the case of a sufficiently fatigued cord, the minimum point seems to disappear. Increase of tension in a cord that has been stretched for some time immediately decreases the rigidity, but if the cord is left under the tension the rigidity increases again.

Polish.—Rayleigh (Nature, Aug. 15) states that with finely ground, as distinguished from polished, glass surfaces, such fineness may be attained that a candle is seen reflected at an angle not exceeding 60°, measured from the perpendicular. Such surfaces are still too coarse for per-

pendicular specular reflection of the longest visible waves of light, although they are fine enough to reflect without sensible diffusion the waves one hundred times longer than those of red light. The balance of evidence, however, indicates that grinding and polishing are essentially different. In grinding, the powder hits the surface, breaking out small fragments, while polishing is in all probability a molecular operation, no coherent fragments being broken out. In one case the author finds that a thickness of about six wave-lengths of mean light was removed during the polishing of a piece of glass; in another case, with very finely ground surfaces, polishing lowered the mean surface two or three wave-lengths.

Liquids and Gases. Kinetic Theory.—Jeans (Philosophical Transactions, May 22) notes that if the mean kinetic energy is the same for each degree of freedom as postulated in the Maxwell-Boltzmann theory of gases, results follow which are irreconcilable with experiment. But he remarks that Boltzmann's law of distribution of energy is proved to be the necessary law only if certain conditions postulated by Boltzmann are fulfilled. It fails altogether if there be dissipation, even though the conditions in other respects are fulfilled. There is dissipation if we admit any interaction, however small, between molecules and the surrounding ether. That such interaction exists is proved by the phenomena of radiation. He finds that the second law of thermodynamics will not generally hold for a gas emitting radiation.

Solution.—L. Bruner and S. Tolloczek (Zeitschrift für Physikalische Chemie, Nov. 2, 1900), in experiments with gypsum, acetanilid, phenylacetic acid, phenylpropionic acid, and benzoic acid, have confirmed the formula of Noyes and Whitney, according to which the velocity of solution is logarithmic. In addition, they have determined the value of the constant per square centimeter of surface. The system, solid substance—unsaturated solution, is considered to be practically unrealizable, and the solid substance is regarded as being in contact with a layer of saturated solution from which diffusion takes place into the surrounding liquid. The constants found are therefore diffusion—constants. N. Schiller (Annalen der Physik, May 29), in a thermodynamical investigation of the saturated solutions as modified by varying external conditions, shows that when a single substance is in solution, external pressure in general promotes solution and increases the osmotic pressure. Where two fluids dissolve into one another and form two saturated solutions the effect of the external pressure in general depends on the relative quantities of the two fluids. Guinchant (Comptes Rendus, Feb. 25) has sought an expression for the variation of the volume of a dissolved body with pressure. Defining the volume of the dissolved body as the difference between the volume of the solution and that of the solvent, the author finds that it is independent of the pressure, at least up to 4 atmospheres. The variation of volume which accompanies the simple solution of a body in water must then be due to a variation in the state of aggregation of the solvent rather than to the volume occupied by the dissolved molecules. F. G. Donnan (Philosophical Magazine, June) explains colloidal solutions by means of Laplace's theory of intermolecular attraction. Any small volume-element in the bounding interface of a solid immersed in a liquid is acted on by two forces, one due to the attraction of the solid, and the other to that of the liquid. For crystalline solids the former is greater than the latter, while for colloidal matter in contact with certain liq-

uids it is assumed that the reverse is the case. The solid will therefore begin to disintegrate into the liquid, but the process stops before true solution sets in, and to account for this the author assumes that the molecular adhesion between the liquid and solid is greater than the molecular cohesion of the colloid, and that for the latter the intermolecular attractive forces fall off more rapidly with increasing distance than for the former. Hence there exists a critical thickness of the colloidal substance such that the forces defined above just balance, and when this state is reached disintegration ceases.

Crystallization.—W. Campbell (London Physical Society Proceedings, 17, pp. 337, 338) finds that pressure may bring about crystallization in solid metals. When a button of slowly cooled tin is hammered it assumes a fine crystalline structure, and a similar crystallization is brought about on the faces of a saw-cut or in filing. A copper-tin alloy containing 1 per cent. of copper gives the same effects as pure tin. The crystallization is only on the surface, as is shown by polishing, when the crystals slowly disappear, giving place to the ordinary structure. G. Tammann (Annalen der Physik, March) throws doubt on the "liquid crystals" whose existence was inferred by Lehmann from the fact that crystals of certain substances, although perfectly clear in the solid state, give rise when melted to turbid liquids that appear bright when viewed between crossed nicols. The author rejects the view that such compounds retain their crystalline structure in the liquid state, and considers the turbid liquids as emulsions of a brown reduction product. He points out that mixtures of powdered glass and water, and other turbid non-crystalline media, give a bright field between crossed nicols. The author's theory does not explain the fact that when such liquids are heated a sudden change in their volume occurs at the point where the turbidity disappears.

Rigidity of Liquids.—T. Schwedoff (International Physical Congress at Paris, Report, 1, 1900) points out that solids show some of the properties commonly ascribed to liquids, and *vice versa*. He discusses the relation between deformation in liquids and internal friction, and arrives at the following results: (1) The viscosity of a liquid depends on its modulus of rigidity, on the limit of its spring, on the speed of relaxation, and on the speed of deformation. (2) The viscosity of a liquid may vary with the speed of deformation. (3) The change in viscosity is more sensible as the limit of elasticity increases. (4) When the rigidity can not be measured directly, the liquid may nevertheless be very viscous, if the speed of relaxation be small. (5) On the other hand, a liquid may present great fluidity and yet have a measurable modulus of rigidity if the speed of relaxation be very great."

Capillarity.—G. van der Mensbrugghe (International Physical Congress at Paris, Report, 1, 1900) concludes from various experimental proofs of the great elasticity of liquids, both under compression and under traction, that liquids can not be regarded practically as incompressible, and that a liquid can not have a uniform density at all points in its substance. He thus believes that superficial tangential tensions must exist in the outer layer of the liquid, and that normal tension must exist, giving rise to evaporation. The author deduces the law that in order that one liquid may spread over the surface of another, it is sufficient and necessary that the mutual action should be greater than the tension of the two surfaces. C. T. Knipp (Physical Review, September, 1900)

has measured the surface tension of water above 100° C. by determining the force required to lift a partly submerged platinum wire. The critical temperature was found to be 374° C., and the pressure 205 atmospheres. The surface tension decreased linearly with increase of temperature until near the critical temperature, when it fell to zero very rapidly. (See also *Electrocapillarity*, under **ELECTRICITY**, below.)

Viscosity.—Hauser (Annalen der Physik, Jan.) has studied the influence of pressure on the viscosity of water up to 500 atmospheres in the temperature range of 15°–100°, using a capillary-tube method. He finds that up to 32° increase of pressure diminishes the viscosity, and that in this temperature region the effect of pressure diminishes with increasing temperature. In the neighborhood of 32°, increase of pressure up to 400 atmospheres has no effect on the viscosity coefficient, while above 32° the viscosity is increased by an increase of pressure of the amount stated.

Sound. Velocity in Hot Air.—E. H. Stevens (German Physical Society) has measured the velocity of sound in hot air by means of a resonance tube of porcelain closed at one end and heated in a coal-stove. The velocity at 950° was found to be 686 meters per second, instead of the theoretical value 701.8. From further experiments with an electrically heated tube, it was found that the divergence between theoretical and actual values increases with the temperature. At 1,000° the actual velocity is 700.3 instead of 716.

"Speaking Flames."—E. Ruhmer (Physikalische Zeitschrift, Feb. 23) finds that flames other than the electric arc will produce sound, relatively weak, under the influence of periodic variations of electric current. If a microphone circuit be connected with the low voltage coil of a transformer, and the current in the secondary coil be led to a Bunsen burner, through the flame, and back through a strip of platinum foil in the flame, the effect is well shown. Higher tones are better transmitted than lower. The author uses with success in reproducing speech loudly with an arc-lamp a transformer with 2½ times as many windings in the secondary as in the primary. With the Bunsen burner, since the resistances are greater, the secondary coil must have a correspondingly greater number of windings.

Mechanical Effect of Sound-Waves.—B. Davis (American Journal of Science, September, 1900) produces by means of stationary sound-waves a continuous rotation of a kind of anemometer wheel in which the cups are replaced by gelatin capsules with flat bottoms, the whole being mounted on a needle-point by means of a glass pivot. The rate of revolution at any point of an organ-pipe is nearly proportional to the velocity of the vibrating air particles at that point. According to Bernoulli, a gas in motion is virtually less dense than a gas at rest. The air in each capsule cylinder is at rest, while that on the outside of it is in motion. The kinetic energy evolved is due to the difference of density on the two sides of the closed end of the cylinder.

Musical Intervals in Melody.—G. Zambiasi (Nuovo Cimento, July) has tested the assertion of Cornu and Mercadier that the scale of stringed instruments in unaccompanied melody is a comma ($\frac{81}{80}$) sharper in the third, sixth, and seventh of the scale than in harmony. After investigation with artists' voices and a phonograph the author finds the acoustic scale, not sharpened by a comma, very closely adhered to, with occasional exceptions in the sixth of the scale; but even then only in cases in which it seems to be felt that the fifth has, for the time,

become a keynote. The acoustic scale is therefore the true scale for melody, as well as harmony.

Transmission through Porous Materials.—F. L. Tufts (American Journal of Science, May) has studied this question by using cylindrical vessels filled with shot of various sizes, from 4.37 down to 1.22 millimeters in diameter. The results indicate the law that the resistance offered by granular material to the to-and-fro motion of a sound-wave is proportional to the thickness of the material, other things being equal. Hence the relation between the resistance and the thickness is the same as holds for direct currents or air.

Heat. Expansion.—Lémeray (Comptes Rendus, Dec. 31, 1900) concludes from experiment that if pieces of different metals have equal volumes at absolute zero, their volumes will again be equal to one another at their respective melting-points. Thus the product of the coefficient of linear expansion by the absolute temperature will be constant. The author gives a diagram which shows that in the case of sixteen metals considered the conclusion is verified with reasonable accuracy.

Radiation.—Thiesen and also Michelson state that for any given wave-length the energy of radiation increases indefinitely with the temperature, or, in other words, that there is no limit to the amplitude of the vibration which gives rise to that particular ray. On the other hand, W. Wien considers that with rising temperature the energy of every wave-length approaches a finite limit. Lummer and Jahnke (Annalen der Physik, October, 1900) endeavor to obtain a general formula from which the two contending formulæ could be deduced by altering the constants. The equation so obtained makes Thiesen's view the only admissible one.

Light. Photometry.—J. Violle, in a paper read at the Paris International Electrical Congress (abstract in The Electrician, Sept. 28, 1900), gives the following account of the various photometric standards:

1. Incandescence standards. (1) The platinum international standard is satisfactory provided the materials used are pure. Petavel prefers the Violle standard. The uncertainty relatively to the intensity of the light emitted by the melted platinum under normal conditions does not exceed 1 per cent.

(2) Lummer and Kurlbaum propose to use incandescent platinum below the temperature of fusion and in such condition that $\frac{1}{10}$ of the energy radiated should be absorbed by a layer of water 2 centimeters thick; but a serious objection is that this temperature is too low and the light emitted is too red.

(3) The crater of the positive carbon in the electric arc may be taken as a standard, but a difficulty arises from the fact that when the arc hisses the most brilliant part is displaced.

(4) Incandescence lamps have been introduced as intermediate standards in photometry. In order that the luminous intensity may be constant, very precise regulation of the potential at the terminals is necessary.

II. Flame standards. (1) The Hefner standard, which uses amyl acetate and requires very careful regulation of the height of the flame, is the legal standard in Germany. Its intensity is greater in winter than in summer owing to the presence of water vapor, and the red tint of the flame and its feeble luminous intensity are grave faults.

(2) The pentane standard excels the Hefner lamp in having a more vigorous flame, but requires more attentive regulation. The influence

of humidity is the same as in the Hefner lamp, and it is also affected by pressure.

(3) In the apparatus of Dibdin the air is carburetted by passing over pentane in a reservoir, which forms the base of the apparatus. The proportion of air and of pentane depends on the temperature of the room, and the degree of humidity must also have a great influence. The Methven standard, on the other hand, has a diaphragmed flame, carburetted with pentane and fed by ordinary illuminating gas, and gives better results.

(4) Among various flame standards lately proposed, but not yet adopted in practice, are many acetylene standards. The light from acetylene differs little from that given out by melted platinum.

A bolometric study by Clayton, Sharp, and Turnbull has revealed unexpectedly large variations in the total emission of the different standards. In the English candle the variations may attain 46.5 per cent. of the mean intensity; the maximum variation for the German candle is 24 per cent. The variations of the Hefner standard may reach 22.6 per cent., but they may be reduced to 2 per cent. by careful regulation. The Carcel lamp may have extreme variations of 18.2 per cent., but the changes are slow and the variation may remain for thirty-five minutes inferior to 0.8 per cent. The authors conclude that the Carcel lamp is the most constant of the standards they have examined.

Constitution of White Light.—O. M. Corbino (Comptes Rendus, Aug. 26), after stating Gouy's opinion that the constituents of the spectrum of white light are components of a single complex vibration, and are capable of mutual interference, and that of Carvallo, who regards the separate radiations as completely independent, and therefore incapable of interference, asserts that the latter view is supported by spectroscopic observation of beats produced by two pencils of white light, one of which is slightly altered in period.

Velocity.—Perrotin (Comptes Rendus, Nov. 5, 1900) describes experiments made at the Observatory of Nice to determine anew the velocity of light. The method adopted is that of the toothed wheel of Fizeau as modified by Cornu. In preliminary observations between two stations nearly 12 kilometers apart the value found is 299.90 ± 0.08 for the velocity *in vacuo* expressed in thousands of kilometers. About 1,500 measurements were taken during more than a year, making use only of absolutely still images, and taking observations without precipitation so as to attenuate or eliminate systematic errors, especially physiological ones. The source of light was the filament of an electric lamp of 16 candle-power.

The "Gray-Glow."—O. Lummer criticizes the law of Draper that all bodies begin to emit light at the same temperature. According to the more recent researches the first sensation of light as the temperature of a body is gradually raised in a dark room is the "gray-glow," now known to be due to the rods in the retina, but this can scarcely be called emission of light, since the human eye can not then bring the body to a focus, the attempt only serving to make the body invisible again. The first real sensation of light takes place at a much higher temperature, which varies with the body emitting it, so that here Draper's law does not apply. Whether it applies to the "gray-glow" is very doubtful. The author has observed the gray-glow as low as 360°C .

Absorption.—Koenigsberger (Annalen der Physik, April) has experimentally determined the influence of temperature on the absorption of light by various solids, and finds that in solids having

selective absorption a rise of temperature moves the absorption curve toward the longer wavelengths, and sometimes also increases the width of the absorption band without sensibly altering the magnitude of the maximum absorption. In metals the absorption is not influenced by temperature within the limits 10° – 360° . Platinum shows no influence up to 800° . The author shows that these experiments explain the influence of temperature on the refractive index and the dispersion on the assumption that the dielectric constant always diminishes with increase of temperature.

Refraction.—F. Pockels (*Physikalische Zeitschrift*, Aug. 31) has investigated this problem experimentally and finds that in polarized light the component polarized perpendicular to the direction of the pressure is retarded relatively to that parallel to the pressure, and, contrary to the usual result, the glass becomes positively double refracting.

Interference.—C. Barus (*Science*, 12, 1900) notes that the interferences observed on viewing one grating or piece of gauze through another are very complex. If two gratings are placed at a distance apart along an axis, and the first illuminated by a strong diffuse light, the second will project a real image of the former grating at definite points on the axis. When these images are looked at by the eye in the proper position, they appear as magnifications of the first grating, often enormously large, the size increasing with the distance of the focal plane from the projecting grating. The indefiniteness of focus when viewed by the normal eye is due to its power of accommodation, and the size is an illusion, for the eye is adjusted for an infinite distance and locates the image of unknown position there.

Magneto-optics.—H. A. Lorentz (*International Physical Congress at Paris*, Report, 3, 1900), in a discussion of the various theories of the influence of a magnetic field on the emission of light, shows how, if a radiating molecule is a material system of a certain number of degrees of freedom, there results a spectral ray which splits up under the action of a magnetic field into a number of components corresponding to the frequencies that are equal apart from that magnetic field.

Spectroscopy.—N. E. Dorsey (*Astrophysical Journal*, September, 1900) has made observations to determine whether in the refraction of light the medium requires time to reach a steady state—that is, whether a short train of waves is refracted in the same way as a long train of the same period. If the initial disturbance is refracted differently from a continuous one, then the lines as seen in a prism instrument should be broadened or rendered hazy on one or both sides as compared with the same lines in the grating spectroscope, but no such effect could be observed either with a continuous source of light or an electric spark. Haschek (*Sitzungsberichte of the Vienna Academy*, January–March), in an investigation of a possible connection between the wave-lengths of spectral lines and the mode of production of the incandescent vapor used to produce them, finds that displacements of lines in the arc and spark spectra are common, and, under certain circumstances, reach considerable magnitudes, but that the wave-lengths depend in a high degree on the momentary conditions of the experiment, and these can not always be controlled. The wave-lengths of the lines are to a great extent dependent upon the consumption of energy, and as this is greater with the transformer, some lines are strongly displaced toward

the red. (See also Kerkhoff's experiments under **ELECTRICITY**, *Gases*, below.)

Telescopy.—J. Renton (*Nature*, Aug. 2) discusses a hitherto unexplained anomaly in comparing the zenith distance of a star by direct observation with that obtained by reflection in a pool of mercury. He attributes the difference of temperature in the stagnation in the telescope tube. The upper side of the tube is cooled by radiation, while the lower is protected, causing a transverse gradient of temperature in the air inside. The rays passing through the tube will thus be bent upward. The error is important because it affects the zenith distances of polar stars, and hence the deduced results for latitude. The writer recommends that means should be used for circulating the air in the tube.

Phosphorescence, Radio-activity, etc. (See also **Röntgen Rays** under **ELECTRICITY**.)—The subject is reviewed in the *Revue Scientifique*, Sept. 8–15, 1900, by Gustav le Bon. He asserts that most bodies under the influence of light become radioactive, emitting effluvia or Becquerel rays. He admits no real distinction between fluorescence and evanescent phosphorescence. The spectrum from blue to ultra-violet excites phosphorescence; from green down to infra-red it tends to extinguish it; in an intervening portion it excites up to a certain intensity and reduces all above that intensity. The temperature at which phosphorescence begins is always far below incandescence, and phosphorescence is a "cold" light, but too weak for practical use. This weakness is not the cause of the apparently low temperature; we do not know anything about the infra-red region of the phosphorescence spectrum. Phosphorescence too faint to be seen may continue for eighteen or more months without any heating. Even when invisible phosphorescence has died out, certain dark radiations may reexcite phosphorescence up to the point of visibility. There is, therefore, some "residue" permanently left in the body, as the result of the momentary exposure to light; but this can be dissipated by heat. It is the impact of the particular dark waves, not the heat evolved, that produces the temporarily revivifying effect and the partial or complete exhaustion of the residue. The "heat-waves" are not necessarily infra-red; they may be so when the source is at a low temperature; but when the compression of the whole infra-red into a small space in the ordinary spectrum is taken into account, the maximum heating power in sunlight is found to be near line D. The "residue" mentioned above does not seem to be stored luminous energy, but may consist of decomposition products that unite when the temperature favors combination. Minerals cut in the dark from the interior of very large lumps, and which have therefore not seen the light for ages, shine upon being heated as well as if they had recently been exposed to light. They appear to contain the products of decomposition referred to. The "residue" when stimulated into activity, say by a temperature of 100° , becomes exhausted if this temperature is kept up, but then a temperature of 200° will bring a fresh portion into play, and so on up to say 500° or 600° . Heating to 100° for months will not bring out that portion of the residue which comes into activity only above 100° , and so forth. A body incompletely exhausted at 500° and then cooled down and reheated to 200° will not shine, for all that portion of the residue is exhausted. Phosphorescence by shocks or blows appears not to be due to localized high temperature, but to a conversion of energy similar to an explosion. Phosphorescence under Röntgen

rays is very feeble, while fluorescence is bright. Phosphorescence accompanies oxidation, hydration, and dehydration. In living beings there is probably hydration and dehydration. In radioactive bodies phosphorescence is readily lost by hydration and by heat, which points to chemical reactions rather than to atomic properties as the cause. Perfectly pure substances are not phosphorescent; traces of other substances are necessary. Sulphide of strontium, for example, needs one part per 10,000 of a salt of manganese or bismuth. Phosphorescence of living beings is practically universal in deep-sea life. The phenomenon survives the life of the animal, but deprivation of air and moisture stops it. It is apparently due to chemical reactions. Fluorescence is explicable on principles of resonance, but protracted phosphorescence, visible and invisible, seems hardly so. It seems to be due to chemical reactions going on even within the solid, and yet extremely mobile, so that they can be set up or arrested in fractions of a second, and reversible, but also dependent upon the temperature, so that the combination is promptly broken up by a very high temperature, slowly by a lower, and not at all at a sufficiently low, temperature. This points toward a new field in chemistry. H. Becquerel (Comptes Rendus, July 22), in observations on uranium radiation at very low temperatures, finds no alteration in the amount of radiation emitted, even at the temperature of liquid air. The writer has verified Dewar's experiment, in which, when a crystal of nitrate of uranium is plunged in liquid air, it becomes luminous spontaneously, and believes that Prof. Dewar is correct in attributing this to electrical action provoked by a molecular contraction. Rutherford and McClung (Philosophical Transactions, Feb. 27), in a discussion of the energy of Becquerel rays, note that radium and polonium vary very much from sample to sample, both in intensity and in kind of radiation, while uranium seems constant. Probably the radio-activity of uranium is possessed by the whole mass of the substance. In ten million years each gramme of uranium in pitchblende must have radiated at least 300,000 calories, and radium far more. To consider these substances as transformers of energy leads to many difficulties. Possibly the regrouping of the components of a molecule might explain the supply of energy, but hardly in the case of radium, should it prove to be persistent in its radio-activity.

Electricity. *Electrification.*—W. C. Henderson (Philosophical Magazine, 50, November, 1900) describes experiments to determine whether a liquid when electrified loses any of its charge by evaporation. The loss of charge from an insulated vessel was found to be the same whether the vessel was empty or contained a liquid. Experiments were made with cool water, hot water, and ether, and in each case the result showed no loss of charge by evaporation. These results are in opposition to the recently published observations of Pellat.

Conduction.—E. Grüneisen (Annalen der Physik, September, 1900) finds that the addition of foreign substances reduces electric conductivity to a greater extent than it does thermal conductivity. This is specially evident in iron. F. Streintz (Annalen der Physik, September, 1900) has made some experiments on powdered conductors which indicate something like a transition from metallic to electrolytic conduction. He prepared fine powders of platinum black, graphite, and lampblack, and subjected them to considerable pressure in a hole bored in a block of ebonite. Judged by the temperature coefficient of the re-

sistance, lampblack thus prepared is equivalent to a dilute solution of sulfuric acid, while graphite ranges itself among the metals. V. Crémieu (Comptes Rendus, May 6) follows up his experiments showing that electric convection produces no magnetic effect by an attempt to show that "open currents" exist, as they must if his earlier experiments are correct. (See *Convection*, below.)

Resistance.—H. Chevallier (Comptes Rendus, Dec. 24, 1900), who has previously determined the permanent changes produced in platinum-silver wire under the influence of temperature, especially the change in its electrical resistance, has conducted experiments which show that oscillating temperatures produce a greater change in the resistance than steady temperatures. The author concludes that the permanent modifications in the body itself are mostly due to small oscillations of temperature. J. Patterson (Cambridge Philosophical Society, April 22) has investigated further the facts, discovered by Longden, that the resistance of thin metallic films, deposited on glass by the cathode discharge, is much greater than that calculated from the ordinary specific resistance of the metal. The author tries the effect of a magnetic field upon the resistance of such films, and finds that for bismuth the change of resistance in the field is a small increase, but very much smaller than that for the same metal in the form of wire. The change of resistance decreases with decrease in the thickness of the film.

Coherence.—T. Mizuno (Philosophical Magazine, November, 1900) states that the results of experiment tend to show that the action of the coherer depends in some way on the microscopic sparks produced in fine metallic particles by electric waves, giving rise to a "welding" action that forms conducting chains of particles and lessens resistance. From a series of experiments on metals, alloys, and their mixtures, the author draws the following conclusions: (1) In platinum, lead, nickel, aluminum, cadmium, copper, steel, silver, and potassium coherers the action of electric waves is to reduce resistance at first largely and then irregularly, and the resistance finally assumes a fixed value. (2) With iron, tin, bismuth, zinc, and antimony coherers, the resistances are diminished at first, but soon afterward the changes become very irregular. (3) With one and also two small lead-ball coherers the resistance attains its final value very rapidly. (4) In the alloys the general tendency is to the reduction of resistance to limiting values, with more or less irregularity. (5) With coherers formed of mixed metals, the change of resistance seems to be chiefly governed by the percentage ratios of the constituents. (6) With zinc, lead, potassium, and electric fuse, the resistance suddenly assumes infinite value at a certain stage during the experiment. The results appear to support the view that the action may be due to something like welding. The lower the melting-point the greater is the reduction of resistance. G. Ferrié (Éclair Électrique, Sept. 29, 1900) has experimented with coherers of carbon-carbon, carbon-metal, metal-metal, metal-liquid, in air, oil, and vacuum respectively. The results with metals were always better than with carbon. In general, the most effective coherer has a resistance of 1,000 to 25,000 ohms, and works with a current less than a milliampere. If the initial resistance is too high, the effects are feeble and generally disappear; if too low, the effects at first may be striking, but they may suddenly cease. If the initial resistance is infinite, the action is irregular; the strong impulse necessary for coherence will probably

cause persistent contact. Zinc and its alloys give the greatest sensitiveness, but nickel and platinum the most regular results. The degree of oxidation has great influence on the sensitiveness. P. E. Shaw (Philosophical Magazine, March) has added by his experiments to our knowledge of the nature of coherence due to the incidence of electromagnetic waves. Among his conclusions are the following: (1) The insulating layer between the surfaces of the contact is of importance before the first coherence has occurred. (2) In certain cases there actually is a bridge of metal formed between the surfaces and rigidly connected to both. (3) A peculiar molecular change (called orientation) has been brought to light. After coherence has taken place and the current has passed through the coherer in one direction, suppose decoherence to be brought about so that no current now passes; if then the direction of the electromotive force in the coherer circuit be reversed, coherence immediately occurs.

Electric Waves.—G. Pierce (Philosophical Magazine, May), with reference to previous measurements of refractive indices for electric waves of several doubly refractive media (woods) which were also doubly absorptive, has investigated the question whether the double absorption is sufficient to account for the double refraction, and whether both these properties can be ascribed to differences of conductivity along and across the grain. Mathematical analysis shows that in that orientation of electric force in which absorption is greatest, velocity is least, and therefore index of refraction greatest. This agrees with the results of the experiments on woods. In all the specimens tested, both index and absorption were found to be greater when the grain was parallel to the electric displacement than when it was perpendicular. The author concludes that heterogeneous conductivity plays an important part in the phenomenon. T. Tommasina (Comptes Rendus, Nov. 26, 1900) has used improved carbon coherers as electroradiophones to detect distant thunder-storms. The electrodes are lamp carbons joined to platinum wires and the coherer is sealed to exclude moisture. Three copper antennæ, each 30 meters long, were fixed to insulators at a height of 12 meters, and one end of each was connected to earth. To avoid danger, the antennæ were not vertical, and were disconnected and insulated on the approach of a thunder-storm. J. D. van der Waals, Jr. (Physikalische Zeitschrift, May 4), seeks to explain radiation phenomena by a statical theory. He applies the probability law to an aggregate of radiating molecules. If in an element of space there is an aggregate of molecules radiating to an external point, P , the electric moments of the molecules are as probably in one direction as in the opposite, but, for radiation to reach P , deviations must occur from the most probable distribution of the moments of the molecules; these and the electromagnetic force at P vary as the square root of the number of the molecules. This deduction is based on the assumption that the vibrations are independent of one another, but because of absorption a partial arrangement must exist in the molecular vibrations. The law of this arrangement is yet to be discovered; it involves attractive forces between the molecules, and the author suggests the possibility of thus explaining molecular attraction.

Electrolytic Phenomena.—R. R. Ramsey (Physical Review, July, 1901) has succeeded in measuring the very small electromotive force set up between two metallic electrodes at different heights in an electrolytic solution, owing to the

difference in weight of the ions and their different migration velocities. A tube containing two electrodes of zinc or cadmium electrolyte was filled with zinc or cadmium sulfate and connected in series with a sensitive galvanometer. By turning the tube from a horizontal to a vertical position a deflection of the galvanometer was observed. In the case of zinc electrodes in 10 per cent. zinc sulfate solution the calculated electromotive force was 2.4×10^{-8} volts per centimeter of height between the electrodes. The mean of the last five observations was 3.1×10^{-8} volts. Similar results were obtained with cadmium electrodes in a solution of cadmium sulfate. B. D. Steele (Journal of the Chemical Society, April) has devised a modification of Lodge's method for the measurement of ionic velocity in which the velocity is measured directly by means of the movement of the boundary between a colorless and two colored salts in a gelatinized electrolyte during the passage of a current. The author largely avoids the use of gelatin by employing vertical tubes, and finds it possible under certain conditions to observe the boundary between colorless solutions by means of slight differences in density and refractive power, so that the use of a colored solution is also rendered unnecessary. Riesenfeld (Zeitschrift für Elektrochemie, May 23) shows theoretically that at the interface between solutions of the same electrolyte in two partially miscible solvents concentration will increase at one junction and decrease at the other (supposing the two solutions to be contained in a U-tube), and that this variation will be proportional to the difference between the migration constants of the cation (or anion) in the two solvents.

Phenomena in Rarefied Gases.—W. Kaufmann (German Physical Society) bases an explanation of the negative glow-light and the dark cathode space upon the fact that cathode rays dissociate the gas through which they pass, and render it conducting. As this conductivity disappears rapidly after the discharge ceases, the ions must combine again of themselves, and the author supposes that the negative glow-light arises through the impact of ions during this combination. E. Goldstein (ibid.) adheres to his previously expressed views that the glow-light consists of rectilinear rays that spring not from the cathode itself, but from the ordinary cathode rays, from all parts and in all directions. Owing to the repulsion exerted by the cathode there is formed around it a space free from glow rays—the so-called dark cathode space. Further applications of the principle explain the extension of the dark space when the pressure diminishes; also its restriction by placing another cathode opposite, or by the action of a magnet. J. Stark (Annalen der Physik, October, 1900) finds that under the influence of heat the luminous layers in a vacuum discharge show a decrease of potential gradient and an increase of current intensity. The changes occur first slowly with increasing temperature, then rapidly, and then again slowly. The dark spaces show an opposite behavior. At a red heat the bright layers become dark and acquire the properties of the latter. K. Kerkhof (Annalen der Physik, February) has shown that the temperatures of gases in Geissler tubes of different diameters are not inversely proportional to the cross-sections, as has been supposed. Probably during the discharge heat is given off to the glass and to the surrounding atmosphere. To test the general opinion that the change of the band spectrum to the line spectrum produced by using a spark gap is due to a rise in temperature, the author inserted a spark gap, and found that this

always gave increased temperatures, provided the gap was large. Small spark gaps lowered the temperature, the probable explanation being that while they do not alter the course of the discharge, a part of the energy is lost in the form of heat. The author also finds that when a discharge takes place in a Geissler tube the introduction of a special coil causes a rise of temperature at the positive end and a lowering of temperature in the neighborhood of the cathode. H. Ebert (*Archives des Sciences*, August) has measured the number of free ions in the atmosphere by drawing air through a tube connected with an electrometer and screened by a larger concentric tube. The electrometer remained charged for several days after stopping the air current. The number of free ions in the air seems to increase with the purity and transparency of the air and the intensity of the solar radiation; both the number of free ions and their velocity of discharge vary considerably.

Röntgen Rays.—L. Benoist (*Comptes Rendus*, Feb. 11) finds that (1) the specific opacity of a body for Röntgen rays is independent of its physical state. (2) The opacity is independent of the mode of atomic grouping—e. g., of crystalline form, allotropic state, etc. (3) It is independent of the state of liberty or combination of the atoms. (4) In simple bodies, measured under well-defined conditions, it is a definite function of their atomic weight and increases with the latter. In the same publication (March 4) he shows that transparency for Röntgen rays depends on atomic weight in a large number of elements, and he even (*ibid.*, March 25) infers the atomic weight of an element from its transparency to the rays. Hébert and Reynaud (*ibid.*, Feb. 18) find that the absorption of the rays by saline solutions is proportional to the atomic weight of the metal in the salt. Sagnac (*Annales de Chimie et de Physique*, March) concludes that Röntgen rays travel in straight lines, subject to scattering which bears no relation to the diffusion or reflexion of light on the surface of the body traversed. The peculiarities in the rectilinear propagation of the rays are only apparent, and the course of the rays is the same as that of light rays. At the same time there is no diffraction, refraction, reflection, or regular polarization. All this is brought into harmony by the theory of Stokes and J. J. Thomson, with the additional observation that, with ordinary light, refraction would be impossible if the wave-lengths were less than twice the distance between the particles of the prism. It is also impossible where the train of disturbance of the ether produced by molecule impacts (Stokes) dies out in less than twice the same distance. This result is the same for transverse and longitudinal ether disturbance. W. Rollins (*American Journal of Science*, November, 1900), in a discussion of current opinions, holds that strained ether is necessary for the production of cathode rays, and that the cathode stream is due to gas amalgamated with the cathode and stops when this is exhausted. He asserts that the theory of indivisible atoms is not now admissible, nor is the idea that the particles in the cathode stream are ultimate components, for their spectrum is too familiar, too complex, and not new. The author holds that Röntgen rays are short ether waves due to impact and heating of the impinging particles, which become radiant centers and thus cool down. The transparency of aluminum to Röntgen radiation is explained on the theory that aluminum atoms and cathode-stream subatoms are made up of ultimate atoms proportional in number to the atomic

weight, and themselves identical for all elements, and that there is ether between these. A platinum target faced with aluminum is not an efficient reflector of Röntgen rays, and the author thinks that the aluminum atom is a more open structure than a platinum atom. C. H. Wind (*Physikalische Zeitschrift*, Feb. 9) describes experiments that he considers to be the only ones which have given a positive proof of the diffraction of Röntgen rays. This proof he gives by using a microscopic wedge-shaped slit and observing the widening of the image near the apex. A diagram given shows two bulbous enlargements, one much smaller than the other, the latter being nearer the apex. G. Sagnac (*Annales de Chimie et de Physique*, June) discusses the mechanism of discharge by Röntgen rays, taking secondary and tertiary radiations through the field into account. The result depends upon the thickness of the metal, the volume of air, the nature of the metal, the nature and the pressure of the gas, the strength of the electric field, and the form and area of the metallic surface. The differences due to the nature of the metal may be due to differences in the secondary radiations from the metals, which make the air more conductive. While the bolometric energy of the secondary rays may be much less than that of the Röntgen rays exciting them, the activity of the former may enable us to detect otherwise unperceivable Röntgen rays. The ultra-violet rays studied up to 1900 only dissipated negative charges, and had no effect upon gases, while secondary as well as Röntgen rays affect gases directly. Some peculiarities of the action of Röntgen and secondary rays are readily explained by means of the velocities and energy of the electric charges, liberated by the rays, under the influence of the electric field; and in certain cases these may present analogies to cathodic phenomena. A. Nodon (*Comptes Rendus*, March 25) shows that Röntgen rays may be produced directly in air, and outside the Crookes vacuum, under the simultaneous action of ultra-violet rays and of an electric field. The rays are propagated along the lines of electric force, and are not emitted in other directions. They are more active when the direction of the force lines is that of the propagation of the ultra-violet radiation. The activity of the rays is a function (1) of the intensity of the electric field; (2) of the intensity of the ultra-violet radiation; (3) of the wave-length of the latter; (4) of the nature of the substances at whose surface they originate. The general properties of the rays thus produced are identical with those generated in the usual way by means of Crookes tubes.

Electric Convection.—Lippmann, by applying the principle of the conservation of energy to the experiments of Rowland upon electric convection, showed that, according to his view, changes of magnetic induction ought to produce movements of electrified bodies in the magnetic field. Crémieu (*Comptes Rendus*, Oct. 8, 1900) describes researches made with a pivoted aluminum disk, separated into two parts by mica, and free to turn in its own plane in a magnetic field. As this apparatus did not move perceptibly the author concludes that there is no displacement of a charged body due to magnetic influences. This investigator's failure to verify Rowland's classic experiment showing the magnetic effect of electric convection has caused much discussion. H. A. Wilson (*Philosophical Magazine*, July) maintains that it is to be attributed rather to the methods employed than to the non-existence of the effect. H. Pender (*ibid.*, August) has suc-

ceeded in observing the effect described by Rowland, using the same method employed in Crémieu's first experiment, having avoided certain things that, according to him, vitiated Crémieu's results. Crémieu, however (*ibid.*, August), asserts the validity of his investigation and abides by his results as announced.

Photoelectricity.—J. Zeleny (Physical Review, June) has experimented on the influence of the temperature of a body upon the rate at which electricity is discharged from its surface by ultra-violet light. From a platinum wire the negative electricity is at first discharged more slowly as the temperature is increased; but the rate of discharge reaches a minimum and then increases as far as the highest temperature used (about 700° C.). The rate also depends upon the previous history of the wire, being much greater after the wire has just fallen in temperature than when it has just risen. An iron wire also descends at first to a minimum rate of discharge, but the final value is many times that for ordinary room temperature. Heating the wire does not change the inability of ultra-violet light to discharge positive electricity, even though the wire is raised to a temperature where the positive electricity is being discharged on account of the heat alone. The author concludes that the variations observed are mostly due to changes at the metal surface, and not in the gas between the electrodes.

Electrocapillarity.—S. Lemström (Annalen der Physik, July) describes experiments on the behavior of liquids in capillary tubes under the influence of an electric discharge. He finds that under the influence of an electric current passing through a stratum of air, water rises along the sides of the tube, and forms drops in the upper end; but this phenomenon takes place only when the metal point from which the discharge passes to the tube is connected with the negative pole of the machine.

The writer believes that the phenomena described may be related to the influence of electricity on plants.

Hysteresis.—Krogh and Rikli (Elektrotechnische Zeitschrift, Dec. 27, 1900) have investigated the effect of wave-form on loss by hysteresis, and find that for a given maximum induction, a peaked electromotive force wave (and therefore a flat-topped induction wave) corresponds to a higher hysteresis loss. They remark that the result might have been anticipated, since with a flat-topped induction wave the changes in the induction are more rapid—except, of course, near the maximum points.

Electric Inertia.—A. Schuster (Philosophical Magazine, February) notes that in the immediate neighborhood of an ion the magnetic field will be many times greater than that calculated on the supposition of continuous distribution, and hence the total magnetic energy is underestimated, and the flow of electricity will behave as if it had inertia. In calculating the chances of verifying this inertia experimentally, the author finds that the effect would be much smaller than the extreme limits of Hertz's experiments on electric inertia. In metals, therefore, no results need be looked for, but in a bad conductor, like carbon, we might get within the limits to which Hertz worked. In the case of liquids and gases, the chances of experimental verification of inertia are equally remote, but a clear proof of such inertia may be looked for in the domain of luminous vibrations.

Motion of an Electrified Particle.—E. Riecke (Physikalische Zeitschrift, Jan. 5) has investigated the motion of an electrified particle of ion

in a uniform magnetic field upon which a uniform electric field is superimposed. The author's analysis shows that the particle moves along a cycloidal curve, whose axis is a parabola. The generating curve is not a circle but an ellipse, and the arcs of the cycloid expand during the motion. These results bear upon the cathode phenomena, the changes in luminous layers under magnetic influence, and the theory of the aurora.

The Wehnelt Interrupter.—Lampa (Sitzungsberichte of the Vienna Academy of Sciences, 109, IIa) has sought to find the reason why a Wehnelt interrupter is less efficient when the smaller electrode is negative. Using a coherer circuit containing a galvanometer, the author finds that the effect upon the coherer under continued sparking at the interrupter is very pronounced when the smaller electrode is negative, but very small when it is positive. The effect is apparently greatest when the interrupter is working quietly, and least when it is working violently. Variation of the length of the smaller electrode showed that the effect is in a measure a periodic function of this length. The phenomenon seems to be a resonance effect, depending upon the resistance, self-induction, and electrolytic capacity of the circuit at the moment of interruption. It is to be noted also that the resistance is smaller when the small electrode is positive than when it is negative. A rotating mirror shows that the spark is of shorter duration when the small electrode is positive than when it is negative.

Instruments for Electric Measurement.—M. Alliamet (Bulletin of the International Electrical Society, July–August and September–October, 1900, reported in Science Abstracts) describes new forms of instruments shown at the Paris Exposition, as follows:

Galvanometers.—In the Broca astatic galvanometer there are two vertical needles, each with a consequent pole at its center and of opposite polarity. The system is astatic, even when the needles have different strengths. One pair of bobbins is fixed with its axis at the height of the consequent poles, the end poles being outside the bobbins. A ballistic d'Arsonval galvanometer has a moving coil, of 500 ohms resistance, very long in a horizontal direction so as to increase the moment of inertia. The suspension consists of three metallic wires attached to the galvanometer in a plane containing its center of gravity. To avoid swinging, vanes dipping in oil are attached to the bottom. A registering d'Arsonval galvanometer has six horizontal circular magnets, and the moving coil carries a flexible arm with a pen which is pressed against the registering drum by an electromagnet. A portable mirror galvanometer carries on one tripod a scale and telescope supported on an arm that is jointed in the middle of its length. In Callendar's registering galvanometer a deflection closes one of two relay circuits and releases a clockwork mechanism, which moves a carriage with registering pen along the slide wire of a Wheatstone bridge until balance is obtained.

Ammeters and Voltmeters.—The Caron alternate-current ammeter consists of a pair of horseshoe electromagnets acting on a flat, oblong coil which is pivoted at one end. The current which is introduced through a transformer, with a single turn in the primary and a high resistance secondary, causes the coil to move in its own plane from one magnet toward the other. The voltmeter is exactly similar, except that the magnets are wound with German silver to diminish the effect of their self-induction. Siemens and Halske showed a rotary field ammeter, constructed on the

lines of a four-pole induction motor, with an aluminum drum as rotor. The current passes through one pair of field coils, while the other pair are short-circuited on themselves. Horn constructs an electromagnetic voltmeter with two scales, one in black for continuous currents, the other in red for alternate currents. Two short cylinders of sheet iron are supported eccentrically in a solenoid, one on each side of the axis and at each end of the solenoid. Their motion, under the influence of the field in the solenoid, tends to place them coaxial with the solenoid, and it is transmitted to the needle by a jointed frame. A novel exhibit is Arnö's electrostatic voltmeter, based on the principle that a dielectric in a rotary electrostatic field tends to rotate with the field by reason of the lag in its polarization. Three segments of a metal cylinder, connected to a three-phase supply, surround a paraffined paper cylinder whose rotation is controlled by a spiral spring.

Resistances.—Constantan is employed in the construction of some recent resistances, and to avoid the effect of this alloy's high thermoelectric power the terminals, slides, and all fittings are also of constantan. In high resistances made by Kundt's process, a spiral line is painted on a porcelain tube with a mixture of gold and platinum chloride in camomile oil. This spiral is reduced to the metallic state by burning in a muffle, and then possesses a very high resistance.

Potentiometer.—A portable potentiometer was shown, having a slide-wire contact adjustable relatively to its index, so as to compensate for the temperature variation of the standard cell.

Ohmmeters.—Several direct-reading instruments with one fixed and one moving coil were shown. Another ohmmeter had two fixed coils acting on a soft-iron needle, to which was attached a pointer prevented from oscillating by a fork. The fork can be moved by a milled head to the position of equilibrium.

Earth Detectors.—In an electrostatic voltmeter for indicating the insulation of live conductors, the two conductors of a line are connected to the two pairs of quadrants, while the other needle is connected to earth. If the insulation of one conductor diminishes, the needle deflects toward the other quadrants.

Condensers.—Standard condensers are now sometimes made of sheets of mica silvered by chemical deposition. A condenser having a very small residual charge is made of chemically pure paper impregnated with an insulating material, the nature of which is kept secret.

Wattmeters.—With few exceptions, those exhibited were of the electrodynamic type. Siemens and Halske make non-inductive resistances for connecting in series with the pressure coil of their wattmeters by winding flat wires on thin sheets of mica, fixed side by side in a box about 7 millimeters apart.

Phasemeters.—In the Siemens type two coils, at right angles, carry the two currents, and produce a rotary field whose amplitude varies with the difference of phase between the currents. This amplitude is measured by the rotation of a metallic disk, embraced by the coils, and controlled by a spring. In Arnö's phasemeter an electrodynamic meter with torsion head has two coils that carry the two currents, and inside them is suspended a pair of coils perpendicular to each other and short-circuited on themselves. This system is also provided with a torsion head. From the readings of the two torsion heads may be calculated the tangent of the angle of phase difference.

Curve Tracer for Alternate Currents.—Abraham's rheograph has a galvanometer coil of very long period. In order that the force acting on the coil may be at all times proportional to the current this is transformed by two pairs of flat coils, one within the other, and relatively adjustable in plane. The fourth coil is in series with the galvanometer coil and with an adjustable resistance in the main circuit of the first coil, and also receives an induced electromotive force impressed by the first coil, and adjusted by varying the relative inclinations of the planes of the coils. These adjustments are made till the galvanometer correctly registers the curve of an interrupted continuous current.

Permeameters.—Carpentier's permeameter consists of a massive iron ring with two air-gaps diametrically opposite. In one is suspended a magnetized needle with torsion head and scale. The test-rod, surrounded by a magnetizing coil, is fixed across the ring on a diameter perpendicular to that on which are the air-gaps; the induction in the test-rod is then proportional to the torsion required to bring the needle to zero. The effects of hysteresis are eliminated by a double reading. A complete apparatus for measuring permeability by means of a bismuth spiral contains an iron yoke to take the test-pieces, an ammeter, and a slide-wire resistance bridge to measure the variations in resistance of the spiral. A permeameter designed by Kath consists of a d'Arsonval galvanometer, an iron yoke with magnetizing coil replacing the usual permanent magnet. The test-rod completes the magnetic circuit of the yoke and carries the coil. A constant current is passed through the moving coil, the index of which moves over an arbitrary scale.

Magnetism. Magnetization.—I. Klemenčič (Sitzungsberichte of the Vienna Academy of Sciences, 109 IIa, p. 827) discusses the decrease of magnetic moment with time, and assigns the loss chiefly to two causes. The after-effects of magnetization are responsible for the greatest loss, occurring in the first two days after magnetization. The other cause, which acts more slowly, is the change in molecular structure brought about by previous deformations, and especially by former temperature changes such as those by which the steel is hardened. The greatest loss of moment takes place in summer, little or none occurring in winter. K. Krüse (Sitzungsberichte of the Vienna Academy, January-March, 1900) has subjected bar magnets to violent treatment, and measured the resulting change of magnetic moment. It is found that the greatest decrease is after the first fall, and that the moment seldom remains unchanged after frequent falls from the same height, the total decrease varying between 1.6 and 25.6 per cent. When the magnets are pulled from contact with a soft iron bar the moment increases slightly after the first separation, changing to a decrease after ten separations. Drawing a magnet from a soft iron plate sometimes diminishes its moment 28 per cent.

Residual Magnetism.—P. Holitscher (Annalen der Physik, December, 1900), in experiments on an ellipsoid of Jura iron, by magnetometric measurement, finds that the residual magnetic moment reaches a maximum only after magnetizing for a certain time. Repeated magnetizations, if in one direction only, give continually increasing residual moments up to 100 magnetizations, beyond which the author did not go. If the successive magnetizations are alternately in each direction, the maximum residual moment is acquired after the first or second, and is about 12 per cent. lower than that when the iron is magnetized in

one direction only. The magnetic moment due to the magnetization is affected neither by duration nor number of magnetizations. With sudden removal of the magnetizing force, the residual moment is somewhat smaller than with gradual removal, or removal by steps of not more than 3 per cent.; but a sudden and a gradual magnetization has the same effect. Contrary to the generally accepted results, the author finds that a small value of H , amounting to 0.055, produces a residual magnetic moment equal to 6 per cent. of the temporary moment. The author explains his results according to the theory that assumes the existence of frictional or cohesion forces between the molecular magnets.

Detection of Ancient Magnetic Fields.—Brunhes and David (*Comptes Rendus*, July 15) have applied Folgeraiter's idea that the direction of the magnetic field during the baking of bricks may be ascertained by measuring their permanent magnetism to the beds of clay in the Puy-de-Dôme region which have been baked by lava-streams. Small cubes of the baked clay were cut out, and the directions of their permanent magnetization were determined. In the case of cubes taken from the same lava-stream the results agree fairly well; cubes taken, however, from different lava-streams give widely divergent results, and the authors suggest that the method might be of use in determining whether two lava-streams were contemporaneous or not.

PHYSIOLOGY. Historical and Theoretical.—In the section of physiology of the British Association, Prof. McKendrick, of Glasgow, began his presidential address on the relation of physical and chemical structure as understood at present in our conception of the structure of living matter, with a reference to the advance that had been made in physiology during the past quarter of a century. In its progress physiology had proved a living and logical inductive science, grappling its problems successfully by the help of the same laws that physics and chemistry apply to non-living matter and its phenomena. It had in the last quarter of a century proved fruitful of discovery to an astonishing extent. Many of its discoveries were of high practical use in medicine as well as of theoretical value. It had struck deep into the soil, acquiring many new data of extreme accuracy, and obtaining much profounder insight into the concatenations of the machinery of life. The phenomena of muscular contraction, the process of secretion by gland cells, the mutual synergy of organs as illustrated by internal secretion, the functional architecture of the nervous system, the mechanics of rejuvenescence of protoplasm by sexual recombination (fertilization); all these branches of the physiological tree of knowledge had, under the cultivation of the last twenty-five years, grown greatly in extent and yielded blossom and valuable fruit. Facts more accurate and theories more profound had drawn their science closer to the elder sister sciences of more systematic measurement, and at the same time had created, it must be admitted, a gap between it and subjects with which it had formerly been associated in teaching. Its advance had widened the educational field and educational worth of physiology, releasing it from former restriction to narrower technical applications. Save in mathematics, knowledge can not be absolute in any domain of science. Physiology shared with the sister sciences their birthright of problems that were, to speak a paradox, the more insoluble the farther we progressed toward their solution.

The volume on the history of physiology during the sixteenth, seventeenth, and eighteenth cen-

turies, by Sir Michael Foster, published in the Cambridge University Press Biological Series, consists of lectures delivered in the summer of 1900 before the Cooper Medical College, San Francisco, Cal. Without claiming to be a complete history of the subject, the book contains a high summary of the chief advances made in physiology in the time of Vesalius until the beginning of the nineteenth century.

The lines along which sound theory would direct the teaching of physiology in medical schools are laid down by Dr. W. T. Porter, of the Harvard Medical School, in the *Philadelphia Medical Journal*, in a series of maxims as follow: "Deal so far as possible with the phenomena themselves, and not with the description of them. Where the fundamental experiments can not be performed, fill the gap with the original protocols from the classical sources. Associate facts which the student can observe for himself with those which he can not observe. Use as the basis of professional instruction, where practicable, the facts and methods to be used by the student in earning his living. Teach the elements by practical work. Let the student state his observations and results in a laboratory note-book, which, with the graphic records of his experiments, shall form one of the requirements for the degree. Control his progress and remove his difficulties by a daily written examination and a daily conference, in which the instructor shall discuss the observations made by the student, and supplement them from his own reading. . . . Demand of every student a written discussion of some very limited thesis, giving the results of the original investigators, together with any observations the student has made for himself. Give the more capable students opportunity for original experimental work. Toward the end of the instruction, when the student is ripe for such work, offer a liberal number of courses of didactic lectures, with demonstrations. . . . These lectures should show the student the historical development of scientific problems, the nature of scientific evidence, and the canons of criticism that help to sift the wheat from the chaff of controversy. From the beginning to the end of the instruction hold fast to concentration, sequence, and election." Concentration upon the one subject in hand, a correct sequence of study, and election, from the numerous objects of study that present themselves, of those which are directly associated with his future work as practitioner or investigator. To meet the needs of the several classes of students, the department of physiology should provide the primary course, suitable for every student of biological science, including medicine. An advanced course, intermediate between the primary course and research, and opportunities for physiological research.

The theory that life is a form of energy nearly allied to chemism has been further elaborated by Prof. Giglio-Tos in a book entitled *Les Problèmes de la Vie*. This author assumes that the function of assimilation, or the transformation of digested food into an integral part of the organism, is a chemical phenomenon, quite analogous to the transformations which many organic chemical compounds may be made to undergo in laboratories. Having established five fundamental conditions to which a molecule must conform in order to manifest the phenomena of assimilation, the author explains his theory of the process. It supposes that protoplasm consists of ultimate assimilative living particles called "bimolecules," which unite into polymolecular aggregates called biomeres, which in turn unite into an aggregate

called a bioplasma, which performs all the functions of life, and is, substantially, a cell. Reproduction is under this view discontinuous growth due to chemical assimilation as described, while the figures accompanying cell division are the morphological consequences of the chemical assimilative powers of the bimolecules constituting the cell.

Respiration.—A special interest is attached to hibernating mammals, because the rise which occurs in the temperature of their bodies during the awakening from torpidity is greater and more rapid than any other elevation of temperature that can be observed in animals. Hibernation is, moreover, a physiological condition in which the processes of combustion are reduced to the lowest ebb compatible with the life of mammals. During this winter sleep the animal responds to changes in the external temperature in a similar way to that shown by a cold-blooded animal. In summer, when it is awake and active, it has the characteristics of a warm-blooded animal. From his studies of the phenomena in the marmot, M. S. Pembrey has found that in the active animal the respiratory change differs somewhat from that of the rabbit. The discharge of water from the lungs is much smaller, and greater variations are seen in the respiratory quotient. During torpidity the respiratory change is small and characterized by the small respiratory quotient, 0.53. The sleeping animal gains in weight, for although it loses water and carbonic dioxid, it absorbs a greater weight of oxygen. The amount of moisture given off is small, and relatively to the carbon dioxid dissolved is much smaller than in the active animal. The respiratory quotient 0.53 observed in the hibernating mammal is probably to be explained by the combustion of fat and the formation of sugar, which is stored up as glycogen in the liver and muscles. During the awakening or passage from torpidity to activity, a great increase takes place in the respiratory exchange, and the respiratory quotient rises. The discharge of moisture is only slightly augmented, and thus the ratio $\frac{\text{CO}_2}{\text{H}_2\text{O}}$ is even as high as 16, whereas the corresponding figure for the active animal is about 3. During the awakening, increased muscular action is observed, even violent shivering. The metabolism at this stage is probably the conversion of glycogen into sugar and the combustion of the latter during muscular contraction; at the same time there appears to be a combustion of fat and the formation of more glycogen and sugar. The respiratory movements show in frequency and type a relation to the animal's internal temperature and activity. Periodic breathing, Cheyne-Stokes respiration, is frequently seen when torpidity is not profound. During the stage of most rapid rise in the temperature of the awakening marmot shivering is observed, especially in the anterior half of the body, and the temperature of the mouth is several degrees above that of the rectum.

In experiments on the cat, T. G. Brodie found that the immediate action of intravenous injection of blood-serum is to cause arrest of inspiration, inhibition of the heart, and vascular dilatation, and that the effect persists for some time. The symptoms are reflex and are almost entirely absent if the vagi be previously divided in the neck. The effect is due to excitation of the pulmonary nerves, and is cut out by division of the pulmonary branches of the vagus, but not by division of the cardiac or lower branches. Repetition of the injection leads to the production of an immune state. The active substance in the serum is

a proteid of the albumin class, and is coagulated on being heated to 86° C. It is produced only when the blood clots. Serum obtained from plasma is inactive.

Of the branches of the vagus, excitation of the central end of which causes reflex inhibition of the heart, the pulmonary fibers were found by T. G. Brodie and A. F. Russell to be in dogs the ones that produce the most marked reaction. The cardiac fibers were much less effective, and the branches below the pulmonary were still less so. The connection of the respiratory tract with the cardio-inhibitory center is very close. Thus stimulation of the nasal mucous membrane at once arrests the heart. Stimulation of the laryngeal mucous membrane is only a little less effective. Stimulation of the trachea and large bronchi is apparently without effect, but stimulation of the alveolar nerves is about as effective as of the laryngeal. These nerves produce a result when excited electrically in their course from the mucous membrane or when stimulated mechanically or chemically in the mucous membrane itself. Excitation of the pulmonary nerves also acts upon the respiratory and vasomotor centers, producing arrest of respiration and fall of blood-pressure. Alveolar nerves can be excited chemically by inhalation through a tracheal tube of irritant vapors or by injection of such substances as serum or egg white. Division of the pulmonary nerves on both sides abolishes the effect on the cardiac, respiratory, and vasomotor centers.

Circulation.—By means of a new method for investigation of the action of drugs on the mammalian heart, Dr. T. G. Brodie, of London, found that chloroform depressed the working capacity vastly more than ether in ethylene chlorid. Suprarenal extract much increased the amount of work performed by the heart, and also its rate of beat. It acted as an antidote to chloroform. If it was administered before chloroform it was found that the heart could withstand much larger doses of that drug. Moreover, a heart deeply injured by chloroform would rapidly and completely recover if suprarenal extract was administered. It had been constantly found in the course of the research that the heart was very sensitive to the blood of different mammalian species. Thus the heart of the dog went quickly into fibrillar incoordination unless fed with dog's blood; ox blood and other kinds of blood acting deleteriously at once.

In experiments of Dr. F. S. Locke, of London, on the action of dextrose on the mammalian heart, the heart, removed from a freshly killed rabbit, was washed clear from blood and suspended freely, and an arrangement was made for recording the contractions by means of a lever attached to the apex. Kept at a temperature of 35° C., and fed with a moderate Ringer's fluid, the contractions gradually grew feeble and ultimately very weak. If, then, oxygen under pressure was introduced into the fluid feeding the coronary arteries, the beats rapidly increased and remained good for about an hour; then they once more diminished and failed. Dextrose then added to the feeding fluid to the extent of 1 per cent. restored the beat, and it continued with hardly noticeable failure for about ten hours. The beating fell at once if for the dextrose in the feeding fluid the oxygenated Ringer solution without any dextrose was substituted, but the beat was restored on returning again to the sugared fluid. Sucrose, levulose, and other sugars as yet tried failed to give evidence of this restorative power.

It is shown by Prof. Hédon, of Montpellier,

that the hemolytic glucosides are more globulicidal in saline solutions than in serum. Substances therefore exist in the serum that may be regarded as protecting the red corpuscles against the toxicity of these glucosides. A little serum added to the water in which they are swimming protects tadpoles against the toxicity of glucosides (saponin, cyclamin) that are otherwise violently poisonous to them. Similarly, acid sodium phosphate protects the red corpuscles from the action of solenin, and protects fish if added to the water of the aquarium.

In the International Physiological Congress in Turin, Prof. Hürthle, of Breslau, demonstrated by graphic records obtained by his new *Stromuhr* that an increase in the speed of the flow of blood in the carotid was produced by compression of the opposite carotid; increase by section of the vago-sympathetic; slowing of the blood-stream in the crural artery by stimulation of the nerves of the limb muscles; and that the blood-stream in the arteries as measured by the volume of blood flowing along the channel in a given time increased not in simple proportion to the increase of actual pressure, but in much greater ratio.

The studies of Prof. Kemp, of Illinois, and Miss Calhoun of the blood-platelets in their relation to coagulation of the blood-plasma go to confirm the observation of Bizzozzo that the blood of a living dog can be reduced to an incoagulable condition by repeated "whippings" and reinjections. The incoagulable blood contains no platelets, but has some, though few, leucocytes. The authors find that in normal clotting the blood-platelets break down, while the leucocytes do not. The fibrin filaments radiate from disintegrating blood-platelets at the nodes of the network they form.

Dr. Uhlen-Luth, of Greifswald, and Drs. Wassermann and Schutze, of Berlin, are independent discoverers of a method of distinguishing human blood from the blood of animals. The reaction upon which it depends is obtainable from blood-stains, however old, and corresponds with the fact that the blood-serum of animals which have been injected with the blood of an animal of a different species, when added to a dilution of blood from the latter, produces a well-marked precipitate in it. Thus, if a rabbit be injected with human blood, the serum of the rabbit blood, when added to a dilution of human blood, causes immediate turbidity, while it does not when added to dilutions of any other kind of blood. One element of uncertainty arises from the fact that the blood of monkeys reacts, to some extent, in the same way as human blood, but there is considerable difference in the length of time required for the two reactions to produce cloudiness.

Digestion.—Experiments on forced feeding are described by W. Hale White and E. I. Spriggs, in which the intake and output of a subject put on a varied diet for fifty-five days were estimated. During the period the subject increased in weight 13.256 kilos, which, the initial weight being 39.23 kilos, represented an addition of one-third. Of fat taken daily, 96.5 per cent. was utilized. The average intake of nitrogen was 38.95 grams, equivalent to 244 grams of proteid, per day. The average quantity of fat being 251.88 grams, it follows that about equal quantities of fat and proteid were given. The observations were held fully to support the fact that if much fat is given in proportion to proteid, nitrogenous equilibrium is only slowly attained. The total amount of nitrogen given during the fifty-five days was 2,142.54 grams (average, as above, 38.95 grams a day). Of this amount, 1,481.50 grams were recovered in urine and feces, leaving 661.04 grams stored in

the body to be got rid of in some other way. The conclusion is drawn that there was a deficiency of output as compared with intake of nitrogen in fifty-five days of at least 120 grams, or 2.3 per cent. of the amount ingested; and that the increase in weight was no doubt due to the fact that was probably nearer 10 per cent.

The movements of the large intestine differ from the studies of W. M. Bayless and R. H. Starling to be, like those of the small intestine, under the control of the local nervous mechanism. The peristaltic contraction of the isolated bowel is due to the combination of ascending excitatory and descending inhibitory impulses started in local nerve plexuses by the presence of a stimulating agent in the lumen of the bowel. The activity of the local mechanism diminishes from the ileo-cæcal valve to the anus, so that under normal circumstances the extrinsic innervation is of more importance than the intrinsic in the emptying of the lower segment of the colon. Sympathetic supply to the colon (colonic splanchnia) has a purely inhibitory effect on both coats of the bowel. The pelvic visceral nerve is motor to both coats.

Dr. O. Cohnheim, of Heidelberg, reported to the International Physiological Congress in Turin that in his experiments on the disappearance of peptones placed under the influence of intestinal mucose the pepsins were not changed by albumin, but were split up into crystallized cleavage products. The cleavage was accomplished by means of a ferment—crepsin—produced by the intestine, which was active on peptones but not on albumin.

In his investigations of the subject, Prof. Alberoni, of Bologna, found that the sugars (glucose, saccharose, and levulose) were not absorbed in the ratio of their osmotic tensions. The absorption of lactose, whether in low-tension or high-tension solutions, was always less than the rate for glucose or saccharose. In the intestine the author always found a field of higher osmotic tension than that of the blood. A slight increase of the osmotic tension of the blood was observed during the absorption of sugar.

In experiments on the part played by the spleen in pancreatic digestion, Dr. Drouin, of Paris, united the esophagus to the duodenum in the dog, and converting the stomach into an independent *cul-de-sac* opening on the surface by a fistula, eliminated gastric digestion, and leaving pancreatic action to perform the chief part in the work, excised the spleen. The excision produced no appreciable difference in the assimilative powers, digestive activity, or apparent well-being of the animal. The removal of the spleen seemed, further, in no way to alter the quality or quantity of the juice excreted by the fistulous stomach.

The Glands.—Changes in the volume of the submaxillary gland as recorded plethysmographically have been studied by J. L. Bunch and classed as passive and active. The author finds that the gland reacts passively to changes in the general blood-pressure, its volume rising and falling synchronously with the latter. Thus we get a shrinkage of the gland on stimulating the vagus or on clamping both carotids, either of which procedures diminishes the supply of blood to the gland. On the other hand, the gland swells synchronously with the rise of blood-pressure which normally follows cessation of vagal inhibition. The active changes in volume of the gland are conditioned by two factors, vascular and secretory. In many cases both of these factors are involved, the result being an algebraic summation of the effects of each factor. All activity of the gland accom-

panied by secretion causes a diminution in its volume so marked that in most cases it overpowers the effects of any simultaneous vasodilatation. Since there is no diminution in the lymph flow from the gland, but rather a slight increase during the period of stimulation, we must conclude that the effect of the secretory nerves is simply and solely upon the secretory cells, the increased exudation from the blood-vessels which must in the last instance supply the fluid for the secretion being a secondary phenomenon determined entirely by the metabolic changes of the cells and lagging behind these to a considerable extent. There is no evidence to show that a sympathetic secretion is brought about through the medium of a muscular mechanism.

In a study of the gaseous metabolism of the submaxillary gland, with especial reference to the effect of chorda activity on the respiration of the gland, Mr. Joseph Bancroft, of Cambridge, found that, during the excretion of saliva induced by the stimulation of the chorda tympani, the oxygen taken from the submaxillary gland was increased to an amount three or four times that taken up by the resting gland; that the carbonic acid given out by the gland was increased under the same circumstances to an equal or even greater extent; and that after an injection of atropin sufficient to cause paralysis of the secretion, the intake of oxygen by the gland was not increased by stimulation of the chorda tympani, while, on the other hand, the output of carbonic acid was increased, at least for a time.

Experiments made by Drs. Gull and Fowler in the study of the question whether the spleen is connected with the production of blood-corpuscles gave results—as to the blood entering and leaving the spleen—that there was no difference in the blood of the splenic vein and the splenic artery, and further, that removal of the spleen (of the dog, rabbit, and cat) produced no perceptible change in the number of the corpuscles of the blood; and that the recovery of the number of corpuscles after hemorrhage and hemolytics proceeded as fast in animals without spleen as in those with spleen.

In a preliminary communication on the metabolism of creatinin, J. J. R. Macleod sets forth several facts of peculiar interest which presented themselves in his investigation, especially with regard to variations in the quantity of that substance excreted in urine in various diseases. The experiments indicate that creatinin excreted by urine may be divided into an endogenous and an exogenous quotient, the former arising from the metabolism in the animal's own tissues, the latter from the creatin and creatinin introduced in the food. Since the total amount of creatinin excreted, therefore, must vary with the diet in the omnivorous animal, it is necessary, in studying the variations in the excretion of this body in the intestine, to place the patient on a creatinin-free diet. This was done in several diseases, more especially in muscular atrophy and splenic enlargement. In the former disease no diminution was found. In splenic enlargement, however, a diminution of the excretion of about 50 per cent. was obtained. Reasons are given for supposing that the diminution is probably not dependent on the number of leucocytes, but on the size of the spleen. In other words, it would appear that the spleen exercises some influence on the metabolism of creatinin.

The evidence afforded by the experiments of Prof. Gley, of Paris, on the function and interdependence of the thyroid and parathyroid glands was both chemical and biological. The author

regarded the parathyroids as complementary in functions and structure to the main thyroid.

Secretions.—In a paper communicated to the Royal Society by Benjamin Moore and W. H. Parker evidence was brought forward that the bile exercises an important action as a solvent; and this the authors claimed to be the chief, if not the only, function of that secretion. It was pointed out that the bile in this respect has a two-fold action: first, in aiding the secretion of cholesterolin and lecithin; and, second, in aiding the absorption of fatty acids and sodium soaps from the intestine. All these substances possess a low solubility in water, and have their solubility increased in bile chiefly by the virtue of the properties of the bile salts. The fact that cholesterolin is but slightly soluble in bile explains the fact that gall-stones are composed almost exclusively of that substance, while lecithin is very soluble in bile, and hence is never deposited. This view as to the action of the bile is regarded as also furnishing an easy explanation for what is called circulation of the bile, and as accounting for the faulty absorption of fat in the absence of either bile or pancreatic juice, and the almost complete failure of fat absorption when both of these excretions are excluded from the pancreatic canal.

Studies are reported by Prof. Moussu, of Alfort, of the lymph flow in the limbs of the larger animals (horse, ox, etc.) during repose and inaction and then under conditions of local vasoconstriction and vasodilatation and under those of general augmentation of blood-pressure and of copious venous depletion. The author had further observed the lymph flow under the influence of muscular work and under conditions of great activity. The general conclusions reached by him are that the lymph is not a simple product of a translation from the blood-plasma through the capillary wall under the mechanical pressure of the blood circulation; that filtration is always quite a minor factor in the production of lymph; that the lymph is mostly a product of the tissues comparable to a secretion from them; that the quantity of its production is in direct relation to the functional activity of the tissues; and that the peripheral (limb) lymphatic apparatus is in large measure an apparatus for secretion.

Studies of the effects of venous obstruction on the secretion of urine by D. H. De Souza go to show that ligation of the renal vein is not followed within the duration of an ordinary experiment by coagulation of the blood within the vein or its branches. Obstruction of the renal vein, whether partial or complete, always caused diminution or cessation of urinary secretion, which, however, was not immediate. The flow of urine from the kidney was directly proportional, other things being equal, to the velocity of the blood flow through the kidney. The nature of the glomerular function must be regarded as still undecided. Secretory activity on the part of the cells of the glomerular epithelium is still unproved, and the majority of the facts may be explained without ascribing to this epithelium other than a purely passive function as a filtering membrane, impermeable in most cases to proteids. Such an explanation, however, throws all the work of regulation of urinary composition, either in a positive or negative direction, on the cells of the urinary tubules.

Watery extracts of the pituitary body have been found by R. Magnus and E. A. Schäfer to produce rise of blood-pressure by contracting the systematic arterioles, much in the same way as extracts of suprarenal medulla produces its well-known pressure reaction.

The origin of the pepsin which is secreted by the urine has been found by Drs. Delezenne and Drouin, of Paris, to be in the gastric juice.

Muscular System.—An investigation of the isometric value of active muscle excited directly and indirectly was undertaken by H. R. Dean with the view of comparing the tension developed in active muscle when directly stimulated and when stimulated through its nerve. The conclusion was reached that the total tension developed by a muscle in response to a direct excitation is greater than that which can be elicited by the maximal stimulation of its nerve, and that the increased mechanical efficiency of the directly excited muscle is not due to the summation of an indirect with a direct response, or to variations in the position of the starting-point of the response; it is thus little influenced by such alteration in the time of the active processes, as must occur if the position of the starting-point is changed. The result presents several points of interest in connection with muscular activity, which are described in the author's paper.

The influence of the ingestion of sugar upon rigor mortis was the subject of experiments by Dr. Frederick Lee, of New York, and Dr. C. C. Harrold, who found that the administration of dextrin before their death to fasting cats which had been treated with phlorizin delayed the rigor of the muscles which usually ensues a few minutes afterward. Absence of carbohydrate from the muscles favored the development of rigor, but was unfavorable to contraction.

The use of the telephone in investigating the rhythmic phenomena of the muscles was described in the British Association by Sir J. Burdon-Sanderson, whose paper was based largely on the researches of Miss Florence Buchanan.

In sixteen experiments on the effect of muscular work upon the digestibility of food and the metabolism of nitrogen carried on by Prof. C. F. Wait at the University of Tennessee, it appeared that, comparing the elimination of nitrogen in the urine during the periods of little muscular activity and normal diet with that during periods of increased activity and a diet furnishing energy largely in excess of the heat equivalent of the measured work performed, a slight decrease took place under the latter condition. This was true even when the possibility of a lag of considerable duration between the breaking down of nitrogenous material within the body and the excretion of nitrogen in the urine was admitted.

The presence of some enzyme in muscle having the power of breaking up the sugar with which the muscle is supplied through the blood, and converting this food into energy with the formation of simpler organized bodies, had been suspected by physiologists for some time. An experiment by Brunton in 1873 which seemed to prove it was liable to criticism for its method; and other experiments reported were inexact, because the material used had not been proved free from possible fermentative organisms. In a research described by T. Lauder Brunton and Herbert Rhodes before the Royal Society the muscle juice, collected with great care, was filtered through a Pasteur-Chamberland candle, the other fluids were boiled, and the apparatus was disinfected by steam. Two flasks were prepared, each containing fresh sterile muscle juice and sugar solution. In one flask the muscle juice was boiled previous to adding the sugar solution. After incubation at body temperature, the sugar in each flask was estimated quantitatively, when a very marked diminution was observed in the percentage of sugar in the flask containing unboiled juice. It was

thus shown that a substance exists in the muscle which has the power of breaking up the sugar molecules; and this substance, it may be said, partakes of the nature of a ferment. Although an attempt has been made to isolate the enzyme, it is of such a delicate nature that the isolating process adopted destroyed its fermenting powers.

From the results of an investigation of the effect of the substitution of alcohol for sugar in the food upon muscular action in the dog, carried on through observations of the respiratory coefficient, M. A. Chauveau concludes that the alcohol introduced, although very rapidly absorbed by the organism, participates only to a small extent, if at all, in the combustions from which the muscular system draws the energy necessary to its working. The alcohol is not an energy-producing food, but its introduction into food has rather the opposite effect. This effect is pronounced unfavorable from all points of view, being marked by a diminution in the absolute value of the muscular work, and an increase in the food used up with respect to the amount of work accomplished.

The Nervous System.—It was for a long time regarded as impossible for an adult creature so high in the animal kingdom as a dog to live for any considerable time after being deprived of both cerebral hemispheres. Prof. Goltz has, however, succeeded in removing both hemispheres from a dog and keeping the animal alive in this brainless condition for several months. He first removed the left hemisphere by two separate operations, in June and November, 1889; and afterward the right hemisphere, in June, 1890. The basal part of the temporal lobe was allowed to remain, lest the optic tracts should be injured in their removal. The animal was finally killed, in December, 1890. Its physiological condition was described by the experimenter in the German Archives for General Physiology, and a full abstract of the paper is given in Schäfer's Text-Book of Physiology, vol. ii, page 302. No complete anatomical examination of the nervous system had been published till the subject was undertaken by Gordon H. Holmes, who found that removal of the cerebral cortex caused complete degeneration in most of the cells and sclerosis in the glia of the optic thalamus and diminution in the myelinated fibers in the gray matter of the interbrain, though both changes were less marked in the ventral nucleus—results that go far to show that Goltz's hope that a subsequent operation would succeed in removing the mantle and leaving the interbrain in the normal state will never be realized, so clearly is the existence of the one dependent on the integrity of the other. Degeneration was also observed in the cortico-spinal and cortico-pontal tracts, in all parts of the fornix which are separated from the cornu ammonis, and a localized degeneration in the corpora-mammillaria. Removal of the cortex had no appreciable influence on the corpus striatum or the radiatio striothalamia, but the latter tract degenerated when the corpus striatum was injured, and proportionately to the extent of the injury. Great degeneration was caused in certain nerve-cells of the primary optic centers—viz., the pulvinar lateral geniculate bodies and anterior quadrigeminal bodies, but the splittings up of the optic fibers within the gray masses remained unaffected, and no appreciable changes occurred in the optic tracts or nerves which could be attributed to this degeneration. As a whole, the parts of the brain of the animal which degenerated on removal of the cerebral cortex were those which are not repre-

sented in the brains of those lower animals that have no functional pallium.

In a paper in the British Association on the return of voluntary movements after alteration of nerve supply by nerve crossing or anastomosis, Dr. Kennedy, of Glasgow, said that his experiments on animals had shown that when the nerves supplying the flexor muscles of a limb were divided and cross-united to the nerves supplying the extensor muscles, the animal in time regained the functional use of the limb, although the innervation of the muscle group was reversed. The principle of nerve crossing found a practical application in many cases of paralysis of a muscle or group of muscles supplied by a particular nerve.

Prof. Langendorff reported to the International Physiological Congress in Turin upon a restoration of function which had occurred one hundred and five days after total extirpation of the superior cervical ganglion of the cat. The signs of paralysis in the eye had then nearly passed off; they returned at once on section of the sympathetic nerve in the neck. Electrical excitation of the upper end of the cut nerve trunk gave strong dilatation of the pupil and the palpebral fissure and retraction of the membrana nictitans. Microscopical examination failed to reveal any reappearance or regeneration of the ganglion, but the sympathetic fibers must have found their way to their appropriate end-stations.

It is maintained by Prof. Wedenski, of St. Petersburg, that all general excitants of nerve exhibit three successive phases of influence, viz., a phase in which the rhythm of the excitation exhibits modification in the rhythm of the response; a phase in which there is a depression of conductivity of the excited state; and a phase of depression of all response to excitation. The author supposes a fundamental similarity of inhibition to necrosis of nerve.

Experiments made by Prof. Vitzou, of Bucharest, to test the supposed inexcitability of the gray matter of the spinal cord to artificial stimuli are regarded by him as demonstrating that the spinal gray matter is excitable by faradic currents.

Prof. J. N. Langley, of Cambridge, England, reported to the International Congress of Physiology in Turin concerning his investigations of the group reactions to drugs and blood conditions of the different neurons which make up the nerve system. He demonstrated the stimulating action of nicotine on the neurons of the superior cervical ganglion in evidence of his view that the drug alters the cell-bodies of that ganglion. Since the suggestion of Carl Huber, of Ann Arbor, it had been customary to suppose that the incidence of the action of nicotine on the sympathetic ganglia lies at the terminal fibrils of the preganglion neurons. The author found that if the preganglion fibers were cut and allowed time for regeneration, the local application of nicotine to the ganglion produced its normal stimulation effect. Applied to a ganglion of the sympathetic chain, nicotine caused erection of hairs only in the region supplied by the ganglion; if it stimulated the preganglionic nerve-endings, axon-reflexes would move the hairs in other regions. Nicotin probably did not paralyze spinal ganglion cells; it did not stop the passage of impulses through the bipolar cells of the spinal ganglions of the skate. The erection of the hairs of the cat which occurs after asphyxia does not occur if the sympathetic pilomotor nerve-cells have been separated from the spinal cord. This blood stimulant acts, therefore, on the intraspinal pilomotor cells.

Prof. Langley also spoke, in illustration of the

same theme, of the effects of suprarenal extract on a number of tissues and organs where he had examined its action. His new results, together with those previously ascertained, showed that in all cases the extract produced an effect of the same kind as that produced by stimulation of the sympathetic nerve, and not like that produced by a cranial or sacral autonomic nerve. Notwithstanding this, the action of the extract appeared to be directly upon the tissue, not upon the sympathetic nerve-endings; thus it produced pallor and secretion of the submaxillary gland, and this after degeneration of the post-ganglionic fibers of the cervical sympathetic. The inhibitory effect of the vagus upon the cardiac sphincter of the stomach was demonstrated to the meeting.

From experiments relating to the centripetal and centrifugal medullated nerve-fibers arising in the spinal ganglia of mammals, H. H. Dale finds that there are a few more medullated fibers in the trunk than in the nerve-roots, the excess consisting probably of fibers which pass the trunk by way of the gray portion of the ramus communicans and end in connection with the vessels or other tissue of the ganglion.

In studies of the action of anesthetics on the neurons of rabbits and dogs, H. Wright found that ether and chloroform anesthesia cause certain changes in the nerve-cells of both brain and spinal cord. These are slight at first, but become more pronounced as the anesthesia is continued. The Nissl granules lost their affinity for methylene blue, and the cells presented a rarefied or, in extreme cases, a skeleton-like appearance. In rabbits there also appeared an early and constant moniliform enlargement of the tips and stems of the chief dendritic extensions of many pyramidal cells, growing in size and spreading along the dendrons toward the cell body as the anesthesia was continued. The changes were regarded as due directly to the influence of the anesthetics. A venous congestion observed also appears to be a secondary phenomenon and is not to be regarded as the cause of changes in nerve-cells. As ether and chloroform are said to circulate in the blood as such, neuronal changes are regarded as biochemical in nature, and produced by the anesthetic that reaches them through blood-streams. Whether the facts described occur also in the human subject, it is impossible to say. But the author does not consider that there is any analogy between the changes described and the biochemical anabolic and katabolic changes that occur in daily life and mark our waking and sleeping hours. He regards the action of the narcotics here as pathological—not intensely so, but remote from physiological processes. These observations were afterward supplemented and extended by additional experiments on dogs, with the twofold object of determining whether a still more prolonged period of anesthesia renders the changes more intense and of ascertaining, by examining the tissues of the animals after the anesthesia had passed off, whether the pseudo-degenerative change is permanent. The answer to the first question was affirmative; to the second negative. The results confirmed the previous work, and show that ether and chloroform act directly upon the chromatic substance of the perikaryon, chemically changing it so that it loses its affinity for anilin dyes. The biochemical change was more intense in the later experiments than in the others, because the anesthesia was kept up longer. Indications were found that after a certain period of anesthesia (six hours in the dog) the depression of the neuronal function becomes more rapidly profound, and there is a limit

of time of safe anesthesia. The histological changes, too, support this view. The changes described in the cells were only transitory, and disappeared with the disappearance of the drugs from the circulation and tissues, or soon after. Further evidence was afforded that the moniliform swelling of the dendrons was not due to simple retraction of the neurons, but was the result of a pathological change in the trophic center of the neuron. It appears analogous to the swelling observed in the first stage of atrophy in axons when cut off from their trophic centers. Rarefaction of all substance and function of the moniliform swellings may modify nervous functions, and to such changes may perhaps be attributed those losses of memory, slight manias, and melancholias that are now and then reported to follow prolonged anesthesia in the human subject.

Special Senses.—Describing studies of dilatation of the pupil from stimulation of the cortex cerebri, Herbert Parsons observes that the effect is best obtained with slight anesthesia. It often occurs without any movement of the eyes or body, but most markedly in those epileptic convulsions that often follow frequent or prolonged excitation. It is never seen with deep anesthesia. In the absence of epileptic conditions it is only obtained from those parts of the brain which are concerned in eye movements. When well marked, dilatation of the pupil is accompanied by all the usual effects of stimulating the cervical sympathetic. The effect is sometimes more marked on the opposite eye, and is diminished, but by no means abolished, by section of both sympathetic nerves in the neck. Other sympathetic effects are abolished. It is not influenced by section of the fifth nerves intracranially after previous section of the cervical sympathetics, but is abolished after such section of the third nerves. It is not abolished on either side by section of the corpus callosum. In the absence of the usual dilator tracts, the effect is probably due to an inhibition of the tonic action of the third nerves.

The principal cause of irregular astigmatism is found by F. J. Allen to be fibrous structure of the crystalline lens. The three groups of fibers in the lens cause unequal bending of the sight in three different directions, so that a luminous point appears to a normal eye to be surrounded by three groups of radiating lines, in the form of an inverted V. The author has tried to discover the exact *modus operandi* of the lens fibers and its bearing on ordinary defects of refraction and their correction by glasses. It is not clear whether the distortion is due to diffraction or to uneven refraction. The following features can be demonstrated by experiment: 1. The radiating lines which appear on any side of the subjective rational image are caused by fibers which lie on the same actual side of the lens. 2. The focus of the aberrant rays is nearer the lens than the proper or general focus, therefore convex spectacles increase the distortion of the image, and concave spectacles diminish it. 3. Distortion increases as the pupil dilates, bringing the peripheral fibers of the lens into the field. It follows that convex glasses, which improve definition in a good light, may sometimes cause blurring when the light is weak enough to allow the pupil to dilate widely. Irregular astigmatism increases with age. Owing to presbyopia it may not be apparent to the naked eye. But when the general refraction is corrected by convex lenses, the exaggerated distortion becomes evident.

In an investigation of the monaural localization of sound, Prof. J. R. Angell and Dr. Warner Fite made observations on a person entirely deaf

in one ear, with parallel observations in some cases upon a person with normal hearing. The results point to qualitative differences in sounds coming from different directions as due to the localization. Such qualitative differences may be due to the damping or reinforcing of certain partial tones by the organs of the ear and head, and it is noteworthy that generally some tones are unlocalizable in monaural hearing. The presence of eye-reflexes was often very marked, and the final localization was frequently made on the basis of the eye-strain and the supposed direction of the sound. This statement, however, leaves untouched the physiological basis of the eye-movements. Finally, there is no good evidence for supposing that extraneous sensations play any part in the localization.

Experiments were described by Prof. Hensen, of Kiel, at the International Physiological Congress, which afford evidence of the existence of an accommodation mechanism for the ear.

Miscellaneous.—In the Wilde Lecture at Manchester, England, the subject being the microbial flora of the human body, Dr. Elie Metchnikoff, after describing the various microbial growths on various parts of the body—in the conjunctiva of the eye, the follicles of the skin, the teeth, and the digestive organs—considered their functions. Speaking of the greater rapidity with which wounds inside the mouth are healed as compared with those on the outer skin, he suggested that, moistened by the saliva, such wounds remained in contact with the microbes and their soluble products, which stimulated the reaction of the human organism. The secretions of the microbes attracted a great number of white blood-corpuscles, which cleaned the wound—cleared it of microbes and mortified tissues—and so favored the process of recovery. In the lower parts of the digestive system this function of microbes was less important, the mucous membrane there being much more seldom torn. But it was probable that the acids secreted by many bacteria in the small intestine rendered a real service by preventing the development of certain other microbes which might impede digestion. This preventive function was also manifested in the course of conflict between the human organism and microbes of a very dangerous kind, and there was reason to believe that in some cases the germs of Asiatic cholera were rendered innocuous by the action of the microbes which they encountered in the intestines. It had also been contended by some authorities that the microbes in the digestive system played an important part in the digestion of food, and that without them blood could not be assimilated; but the data available would lead rather to the general conclusion that for the normal action of the human digestion the presence of the intestinal microbes was by no means indispensable. They should now try to ascertain whether the microbes in the human system might injure its health. When the defensive forces of the body flagged, the microbes of the skin began to multiply and pour their noxious products into the tissues and the blood. Boils and anthrax were thus often developed in persons suffering from diabetes or other general disease. But the greatest harm was done by the microbes of the stomach and intestines. It had been recognized that the gravity of the danger incurred in cases of perforation of the intestine was due to the inflammatory action of the microbes that escaped into the peritoneum. The microbes further produced soluble substances which could be absorbed through the wall of the intestines and so make their way into the circulation. Several of these

were substances more or less poisonous in their action, and it was very probable that a great many of these toxic products of our intestinal flora had still to be ascertained. There was reason to affirm that the poisons produced by the intestinal microbes played a considerable part in causing many and various maladies.

Muscle serum, although it is taken normally into the stomach as a food substance, has been found by M. C. Richet to produce strong toxic effects when injected under the skin. These effects do not follow when the serum has been coagulated by heat.

A microscopical examination has been made by Dr. R. J. A. Berry for the purpose of determining what, if any, analogy exists between the apex of the cæcum of the lower animals and its equivalent, the vermiform appendix in man. Three types of animals were selected—the rabbit, the cat, and the pigeon. In them a marked accumulation of lymphoid tissue was found at the cæcal apex, which reached its maximum development in the cat within one week after birth. From these developments, combined with the comparison of the corresponding arrangements in other animals, the conclusion was reached that lymphoid tissue is the characteristic feature of the cæcal apex, the vermiform appendix in man being represented in the vertebrate kingdom by a mass of lymphoid tissue, situated more frequently at the cæcal apex; that as the vertebral scale is ascended, the lymphoid tissue tends to be collected into a specially differentiated portion of the intestinal canal, the vermiform appendix; and that this appendix in man is not therefore a vestigial structure, but is a specialized part of the alimentary canal.

The conclusion is drawn from analytical studies by T. B. Osborne and E. F. Campbell that the protein of egg yolk is principally a lecithin compound, soluble in salt solutions, and in its behavior resembling a globulin. Preparations of crystallized egg albumen obtained and described by T. B. Osborne indicated that other proteid bodies are associated with the substance ordinarily known as ovalbumen. The authors have since repeated their work on a larger scale, with confirmation of the earlier observations and the acquisition of a number of facts concerning these and other protein substances.

Some remarkable analogies have been observed by G. Bredig and K. Ikeda and M. V. Berneck between the behavior of a solution of colloidal platinum and that of the organic enzymes, especially those present in the blood. Among them is the fact that just as minute traces of certain substances inhibit the catalytic action of the enzymes of the blood, so traces of the same or similar substances act as "poisons" to colloidal platinum, the quantities necessary being in some cases extremely small. The work of the authors is expected to lead to more quantitative studies of the catalytic action of the enzymes proper, the importance of which in animal and plant physiology is becoming every day more manifest.

Catalase is the name of a new enzyme of general occurrence which is described by Dr. Oscar Loew with special reference to the tobacco plant. It possesses the power of producing catalytic decomposition of hydrogen peroxide—a decomposition which is probably not produced by any other known enzyme. It appears to exist in a soluble and an insoluble form, which are designated as α catalase and β catalase. The former is wholly a compound of the soluble catalase with a nucleoprotein, while the β form is an albumin, and can be liberated by the action of very dilute alkaline

media upon the insoluble catalase. The action of this enzyme appears to be an oxidizing one. The most characteristic reaction studied in this direction has been its rapid oxidation of hydroquinone to quinone. Numerous tests have established the general occurrence of catalase in the vegetable kingdom. No living plant or vegetable organ was found free from it, some plants containing more of the soluble, others more of the insoluble form. In the animal kingdom it also appears to be widely distributed, having been found in aqueous extracts of spleen, pancreas, liver, kidney, brain, muscle, and blood serum. Infusoria, insects, worms, and mollusks were also examined, with positive results.

Existing methods of obtaining actual intercellular tissue are criticized by Sydney Rowland, of London, as having a common defect of principle in that they grind by attrition. The most successful of them is apparently that of Buchner, who has succeeded in obtaining the intracellular juice of yeast-cells. The details of it have not been published. A method described by Mr. Rowland depends on percussion. It is first necessary to reduce the size of the organized elements of the tissue or cell to that of the smallest elements. This is accomplished by submitting the minced organ to the violent and rapidly succeeding impacts of particles of some solid substance harder than the tissue to be ruptured, and of a comparable size with its individual elements. The mass of material thus resulting is a paste consisting of minute particles of proteid or other constituent material, suspended in the liquefied intracellular substances, and mixed with more or less blood products. The separation of the solids from the liquids of this mass may be produced by centrifugalizing or by filtering. Both of these means are, however, slow and uncertain. A method of interstitial filtration similar to the so-called filter-pressing operation of many industrial processes gives a perfectly clear solution. The material contains the actual intracellular liquid substances, and if the disintegrating processes are carried on at such a temperature as will arrest chemical action—in liquid air, for example—it is difficult to see what (other than physical) differences can exist between such a juice and the living liquid substance. Several ways of using the method thus generalized are indicated by the author. It can be adopted for bacteria, glands, organs, yeast, and even for so refractory a material as lead. Mr. Rowland describes the modification most convenient for glands and organs, and his apparatus adapted to them. It consists of a disintegrator, a vertical revolving steel spindle with horizontal vanes or paddles overlapping one another by 90°, and a filter press, in which the juice is expressed from a mixture of the disintegrated mass and *Kieselguhr*.

The formation of "skin" or film in warming milk has been studied by R. Jamieson and A. J. Hertz, of Oxford, who find that it is not a peculiar property of caseinogen or lactalbumin, as a similar film is produced on warming any proteid solution containing emulsified fat or paraffin; that the film is probably formed of unchanged dried proteid in the case of non-coagulable proteids, and in that of coagulable proteids if the temperature is kept below the coagulation point. If the temperature is higher, the film, with the latter, is composed, partly at any rate, of coagulable proteid. Globules of fat or paraffin are entangled in the skin. Drying is an essential condition for the formation of a film. The authors propose the following as a hypothesis to explain these phenomena: Particles suspended in colloid solution are surrounded by

molecules of the colloid aggregated together to a greater extent than elsewhere in the solution. On warming, the suspended particles circulate; those reaching the surface are dried and aggregate to form films.

It has been found by Dr. Pugliese, of Bologna, and Prof. Aducco that the addition of sodium chlorid to the water taken by fasting animals considerably increases their resistance to inanition. When the tissues of animals as similar as possible in other respects, but in the one case having water only, and in the other salt and water, were analyzed, the tissues under the latter condition were found to contain relatively the more water. Also, the amount of water excreted by the animals receiving salt water was less than the amount excreted by animals receiving water without salt.

The thermal conductivity of the human skin formed the subject of an investigation described by M. J. Lefevre in the *Journal de Physique*. Regarding the skin as a wall about two millimeters thick, three coefficients have to be found—namely, the surface conductivity, the true conductivity through the substance forming the skin, and the internal surface conductivity between the skin and the adjoining tissues. The experiments showed that the skin is a bad conductor, its true conductivity being about the same as that of wood, of the same order as that of gutta-percha, about five or six times that of wool, and seven hundred and fifty times that of air. The conductivity is only half as great at 5° as at 30° C. The exterior surface conductivity of the skin in contact with water appears to be approximately independent of the temperature, but the coefficient across the surface separating the skin from the adjoining tissues increases considerably as the temperature falls from 30° to 5° C.; and the latter increase more than counterbalances the decrease in true conductivity, so that the loss of heat at 5° C. is twice or three times as great as it would be according to Newton's law.

PORTO RICO, formerly a colony of Spain, ceded to the United States in the treaty of peace concluded at Paris on Dec. 11, 1898. The island was under military rule in the beginning of 1901. The Governor was Brig.-Gen. G. W. Davis.

The area of the island is about 3,600 square miles. The population in 1899 was 953,243. There are about 70,000 negroes and 240,000 mulattoes. San Juan, the capital, had 32,048 inhabitants in 1899; Ponce, 27,952; Mayaguez, 15,187. The revenue collected by the Spanish Government in 1895 was 5,454,958 pesos, and the expenditure was 3,905,667 pesos.

The most important product is coffee, which occupies 200,000 acres. The quality is in general superior, and the annual yield is 60,000,000 pounds. Sugar occupies 50,000 acres, the annual product being 47,000 tons. The yield of tobacco from 3,000 acres is 12,000,000 pounds. From July 28, 1898, the date of the American occupation, till Dec. 31, 1899, the imports amounted to \$12,546,542, and exports to \$11,621,049. Cotton goods, rice, flour, and provisions are the principal imports. Of the total imports \$4,815,135 came from the United States, \$2,610,076 from Spain, \$2,070,343 from Great Britain, and \$1,492,577 from Germany. The export of coffee was \$6,482,894 in value; of sugar and molasses, \$3,195,032. Of the total exports \$3,358,980 went to the United States, \$2,856,556 to France, \$1,489,665 to Cuba, and \$1,353,570 to Spain. There are 137 miles of railroads, 470 miles of telegraphs, and an extensive telephone system. During 1897 there were 1,135 vessels, of 1,356,989 tons, entered at Porto Rican ports.

The Foraker act of April 12, 1900, imposed a duty of 15 per cent. of the rates of the Dingley tariff on importations from the United States into Porto Rico and importation into the United States of Porto Rican products, the duty collected to be paid over to the insular treasury. This duty was declared by the Supreme Court of the United States in a decision rendered on May 27, 1901, to be legal, but not the duties collected prior to the enactment of the law, Porto Rico being from the time of the cession of Spain appurtenant to the United States as a possession and not foreign territory, but not a part of the United States, and therefore not subject to the clause of the Constitution which requires that duties, imposts, and excises shall be uniform throughout the United States. The Hollander act imposed an excise duty of 60 cents a gallon on rum in Porto Rico, payable at the time of the sale and shipment from the distillery, the stamp being attached to the bill of lading. A similar duty was imposed on Porto Rican cigars. In 1900 there were produced 801,858 gallons of rum and \$364,951 worth of cigars.

PORTUGAL, a kingdom in southwestern Europe. The throne is hereditary in the family of Saxe-Coburg-Braganza. The reigning sovereign is King Carlos I, born Sept. 28, 1863, successor to his father, Luiz I, who died Oct. 19, 1889. The heir apparent is Luiz Philippe, Duke of Braganza, born March 21, 1887, son of the King and Marie Amélie, daughter of Philippe, Duke of Orleans, the late Count of Paris. The legislative power is vested in the Cortes, consisting of a Chamber of Peers, containing 52 hereditary, 13 spiritual, and 90 life members, and a Chamber of Deputies, containing 120 members elected by the direct suffrage of citizens possessing an elementary education or an income of 500 milreis. The Cabinet of Ministers, constituted on June 25, 1900, consisted in the beginning of 1901 of the following members: Prime Minister and Minister of the Interior, E. R. Hintze Ribeiro; Minister of Foreign Affairs, João M. Arroyo; Minister of Finance, A. Andrade; Minister of Justice and Worship, A. Campos Henriques; Minister of War, L. A. Pimentel Pinto; Minister of Marine and the Colonies, A. Teixeira de Sousa; Minister of Public Works, Industry, and Commerce, J. J. Pereira dos Santos.

Area and Population.—Portugal has an area of 34,528 square miles, with 4,660,095 inhabitants on Dec. 31, 1890, exclusive of the Atlantic islands, of which the Azores, with an area of 1,005 square miles, had 255,594, and Madeira, with an area of 505 square miles, had 134,040 inhabitants, making the total area of the kingdom 36,038 square miles and the total population 5,049,729. Lisbon, the capital, had 301,206 inhabitants. The number of emigrants in 1897 was 21,612, of whom 243 were destined for European countries, 3 for Asia, 1,541 for Africa, 17,993 for Brazil, 1,815 for other parts of America, and 16 for Oceania. In 1898 the total number was 23,510, of whom 230 went to Europe, 4 to Asia, 1,854 to Africa, and 21,422 to America. Education, though nominally compulsory, is not general. In 1890 only 20.8 per cent. of the population could read and write. There were 4,483 primary public schools in 1899, the expenditure on education being 1,178,593 milreis for that year.

Finance.—The revenue for the fiscal year 1900 was estimated at 49,713,000 milreis, and expenditure at 49,941,000 milreis. For 1901 the approved estimates were 52,188,125 milreis for revenue, including 1,150,000 milreis of extraordinary receipts, and 54,848,957 milreis for expenditure, including

2,112,229 milreis of extraordinary expenditure, leaving a deficit of 2,660,832 milreis. For 1902 the revenue was estimated at 53,269,000 milreis, and expenditure at 55,239,000 milreis.

The public debt in 1900 consisted of £41,727,171 of external 3-per-cent. consolidated bonds, £1,818,914 of 4-per-cent., and £12,779,780 of 4½-per-cent. redeemable external bonds, £8,773,000 of the 4½-per-cent. tobacco loan, and £87,894,879 of 3-per-cent. internal bonds, making the total debt outstanding £152,993,744, not including £6,148,820 of 4- and 4½-per-cent. bonds of other classes and the floating debt, which amounted to 44,653,414 milreis on Jan. 1, 1900.

The Army and Navy.—The military law of Sept. 7, 1899, divides continental Portugal into four military districts and the islands into two commands. The army is organized into 27 regiments of infantry, 4 regiments of chasseurs, 8 regiments of cavalry, 4 regiments of field-artillery, 2 batteries of horse-artillery, 2 batteries of mountain-artillery, 2 regiments of garrison-artillery, and 1 regiment of engineers. The active army on the peace footing consists of 1,723 officers and 29,703 men, with 5,404 horses and mules, and 144 guns. There are besides 81 officers and 297 men of the reserve troops in active service, and 80 officers and 2,176 men of the municipal guards, and 136 officers and 5,619 men of the fiscal guard that are incorporated with the army in case of war. The war strength of the active army is 2,029 officers and 82,843 men, with 10,736 horses and mules and 216 guns; and the strength of the reserves is 1,447 officers and 62,796 men, with 5,113 horses and mules and 46 guns, making the total war effective 3,476 officers and 145,639 men, with 15,849 horses and mules and 312 guns.

The Portuguese navy consists of 1 armor-clad, 5 protected cruisers of from 1,800 to 4,100 tons, 2 new and 4 old cruisers, 16 gunboats, 10 river gunboats, and 15 first-class and 30 small torpedo-boats. By the aid of a national defense association the cruiser *Adamaster*, of 1,933 tons, has been built at Leghorn and the *Rainha Amelia*, of 1,660 tons, at Lisbon. The *São Gabriel* and *São Raphael*, of 1,800 tons, were launched at Havre in 1898. The *Don Carlos I.*, of 4,100 tons, launched at Elswick in 1899, has a 4-inch deck, carries 4 6-inch, 8 4.7-inch, 12 3-pounder, and 6 smaller quick-firers, and can steam 22 knots. The old ironclad *Vasco da Gama*, of 2,420 tons, is being reconstructed and armed with 4 8-inch quick-firing guns.

Commerce and Production.—Wine is the chief product of the country, and next comes cork. Olive-oil is produced in large quantities. Pineapples and figs are the principal fruits, and oranges next. Tomatoes, onions, and potatoes are raised for export. Cotton goods are manufactured and exported to the African colonies. There are mines of copper, sulfur, lead, coal, arsenic, tin, and other ores and minerals. Salt, gypsum, lime, and marble are exported. The total value of special imports in 1899, including precious metals, was 51,522,882 milreis; of exports, 30,052,225 milreis. The imports of live animals were 1,844,727 milreis in value, and the exports 2,647,739 milreis; imports of raw materials for manufactures were 21,348,630 milreis, and the exports 4,931,685 milreis; imports of textile manufactures were 6,252,598 milreis, and exports 2,858,755 milreis; imports of articles of food were 14,095,102 milreis, and exports 16,338,816 milreis; imports of machinery were 3,504,889 milreis, and exports 141,061 milreis; imports of miscellaneous manufactures were 3,476,188 milreis, and exports 1,922,892 milreis; the value of packing in imports was

102,606 milreis; the imports of coin and bullion were 898,142 milreis, and exports 1,216,277 milreis. The larger imports in the special trade were wheat of the value of 4,216,996 milreis; raw cotton, 3,486,001 milreis; coal, 3,213,990 milreis; cotton goods and yarn, 2,615,846 milreis; iron, 2,470,418 milreis; corn, 2,172,301 milreis; sugar, 2,109,776 milreis; codfish, 1,931,589 milreis; wool, 1,661,337 milreis; leather and skins, 1,071,565 milreis; woolen goods and yarn, 1,059,626 milreis; cattle, 783,428 milreis; coffee, 570,909 milreis. The leading exports of domestic products were wine of the value of 10,913,689 milreis; cork, 3,040,556 milreis; cotton manufactures, 2,504,996 milreis; copper ore, 957,142 milreis; sardines, 956,549 milreis; horses, asses, and mules, 854,644 milreis; olive-oil, 552,870 milreis; cattle, 355,579 milreis; eggs, 319,965 milreis; almonds, 264,431 milreis; pineapples, 243,260 milreis; figs, 232,853 milreis; onions, 169,341 milreis; tunny, 135,681 milreis. The exports of wine consisted of 51,846,870 liters of ordinary wine, 765,590 liters of liqueur wine, 2,510,500 liters of Madeira, and 27,916,800 liters of port. The ordinary wine is exported to Brazil and to Portuguese colonies, the heavier wines mainly to Great Britain, of whose total imports of wine in 1899 the wines of Portugal constituted 22.8 per cent. of the quantity and 20.9 per cent. of the value.

Navigation.—The number of vessels in the foreign trade entered at the ports of Portugal, Madeira, and the Azores during 1899 was 5,663, of 8,552,744 tons; cleared, 5,640, of 8,575,971 tons. Of the vessels entered 3,865, of 5,917,374 tons, had cargoes; of those cleared, 4,367, of 6,649,172 tons. The number of vessels entered coastwise during 1899 was 4,149, of 1,226,394 tons; cleared, 4,037, of 1,136,611 tons.

Political Affairs.—The financial question outweighs all others in Portugal. Although a gradual improvement is observable in the development of commerce and navigation and the general well-being of the nation, in the traffic of sea-ports and railroads, in the importance and values of the industries, still in the budget there is an excess of expenditure over revenue year after year, and in 1901 more than in previous years, augmenting the floating debt, while the burden of the rate of exchange was heavier than before, and the circulation of paper money had reached the limit. In the speech from the throne at the opening of the Cortes on Jan. 2 the public authorities were warned not to enter into engagements or authorize expenditure which the resources of the treasury could not meet. To obtain the largest possible amount from the public taxes it was necessary to simplify the methods of procedure in their collection. It was necessary to profit by and utilize the increase in the productive forces of the country, to protect and to promote individual initiative in the carrying out of agricultural development, industrial undertakings, and commercial operations, and so to organize administration that it should be economical and efficient. The Government was unable to present a budget in which revenue and expenditures balanced, and left it for the future to reveal a remedy.

The French creditors of Portugal asked for the intervention of their Government to protect their interests. The French Government, protesting that the financial measures taken by Portugal were in conflict with all established principles, and that the creditors had been robbed of a part of the revenues assigned to them for the payment of the debt, made strong representations to the Portuguese Government, and proposed a convention, to which the Portuguese Government would not agree. This attitude of Portugal made a bad im-

pression in Germany, England, and Belgium, as well as in France, and all the governments raised vigorous protests, to which the Portuguese Government replied with an expression of regret that the financial situation forbade the acceptance of the proposals at the moment, but if this improved sufficiently Portugal would then be willing to take up the negotiations again. The French Minister of Foreign Affairs declared that if Portugal was unwilling to revoke the measures that were prejudicial to the creditors, he possessed means of bringing pressure in Lisbon which he would not hesitate to use. The principal measure referred to was the arbitrary reduction by the law of April 20, 1893, of the interest on the external debt, payable in gold, to only one-third of the agreed interest. The interest on the internal debt, payable in currency, had been reduced 30 per cent. the year before, the finances having become so disordered in 1891 that the treasury could not meet its current obligations. The public debt in 1890, practically the whole of which had been contracted since 1850, was 258,086,897 milreis in internal, 46,366,759 milreis in external, 104,172,464 milreis in redeemable, and 19,565,172 milreis in floating obligations; total, 428,191,292 milreis. In 1900 the total obligations were 756,294,952 milreis, not reckoning the premium on the gold debt. The Government owed the Bank of Portugal 26,750,105 milreis. The bank had 69,833,406 notes in circulation, protected by a metallic reserve of 13,137,683 milreis. These notes are the currency of the country. Gold has been the legal standard of value since 1851, but only 7,950,000 milreis of gold coins have been minted since that date, none at all since 1891, while the silver coinage has amounted to 30,352,436 milreis. When Portugal partially repudiated its foreign debt an international commission of financial control was proposed by several foreign governments. The suggestion roused a storm of protests in Portugal. Minister of Finance Arroyo declared in the Cortes on Feb. 26, 1901, that the Government would in dealing with the foreign debt firmly maintain the position created by the law of 1893, and if any alteration of that law were to be considered the financial independence of the country would be defended and no form of financial control admitted, not even an indirect control, nor should the financial resources of the treasury be unduly weighted.

The anticlerical sentiment which stirred up popular passions in Spain spread into Portugal, and an incident occurred in the early part of 1901 which made the question of the monastic orders one of practical political concern. The Jesuits, who enjoyed the favor of the Queen, influenced the wealthy daughter of Dr. Calmon, the Brazilian consul in Oporto, so that she desired to enter a convent. She was a maiden thirty-two years old, but her parents would not consent. When she was coming with them from church one morning an attempt was made by Jesuits and persons they had brought to help them to tear her away from the parents, which would have succeeded had not friends rushed to their assistance. The Brazilian Government asked an explanation of this attempt to abduct one of its citizens. The Republican newspapers printed virulent attacks on the Clericals, who were fiercely assailed by the whole Liberal press. Students and citizens of Oporto made demonstrations in the streets, and the police used their weapons in attempting to disperse them, wounding some of them. Two days later a mob gathered before the house of the Clerical politician who was believed to have instigated the attempt to take the lady away from her

natural protectors by force, and attempted to burn it down. The police fired into the crowd with their revolvers, and cavalry patrolled the streets for the protection of other citizens. The Portuguese Government ordered the provincial governors of the various provinces to make inquiries into the position of the monastic confraternities with a view to taking measures in regard to them. As a result of the investigations a decree was issued on April 20 requiring the secularization of the existing congregations within six months, and in addition declaring it necessary for them, in order to secure a legal status, to devote themselves to works of benevolence, charity, or education, or to the propagation, but only in the colonies, of the faith and civilization. These conditions involved the closing of 7 Franciscan, Jesuit, and Benedictine establishments, in addition to 10 convents which had already been closed, and their occupants expelled, by the local authorities. The decree announced further that the supreme direction of each association must be in the hands of Portuguese citizens unless the association is composed exclusively of foreigners. The Cortes ended their session on May 27, and were dissolved by royal decree on June 5. Elections were appointed to take place in October for the new Cortes, to meet on Jan. 2, 1902.

The Republicans were greatly excited over a supposed design of the Government to cede colonial territories to a foreign power. In the speech from the throne reference was made to an arrangement with England to permit transit over Portuguese territory in Africa for military purposes in the Transvaal war and to the visit in the Tagus of a British squadron on a special mission as emphasizing the public affirmation of the close alliance and friendship which unites the two nations, and which recent acts had still more strongly accentuated. In South Africa Portuguese action was described as having assured at once the rights of sovereignty and the duties of hospitality enjoined by kindly international customs. The compact entered into with England is supposed to have been, in return for Portugal's compliant action in straining the obligations of neutrality, a promise by Great Britain to respect the sovereign rights of Portugal over her African possessions, to which the concurrence of Germany was obtained. The consul of the Netherlands, Mr. Pott, who protected the interests of the Boers in Lourenço Marques, had his exequatur withdrawn on the ground that he had been engaged in the importation of heliographic apparatus for the Transvaal artillery and had granted passports wrongfully.

An agreement was made with Great Britain for the delimitation of the territory between Angola and Barotseland. The passage of a German expedition through Portuguese territory gave rise to a rumor that the German flag had been raised at Quanhama, and demands were made in the press for a delimitation of the frontier between Angola and German Southwest Africa.

Colonies.—The Portuguese retain in India the small colony of Goa on the Malabar coast. Its area is 1,390 square miles, its population 494,836. The salt-works produce 12,200 tons a year. Salt is produced also in the dependent territory of Damao and on the island of Diu, which have together an area of 168 square miles and a population of 77,454. The revenue of Goa for 1900 was estimated at 940,886 milreis, and expenditure at 1,057,564 milreis. The imports in 1899 were 668,275 rupees in value, and the exports 416,723 rupees. The transit trade with British India was valued at 19,925,350 rupees. A railroad, 51 miles

in length, connects with the British Indian system. There is a military force of 1,630 men, of whom 1,426 are natives.

Macao, an island at the mouth of the Canton river in China, with the dependent islands of Taipa and Coloane, has an area of 4 square miles and a population of 78,627, comprising 3,106 native Portuguese, 615 natives of Portugal, 177 other Portuguese, 161 foreigners, and 74,568 Chinese. The Chinese live in a separate quarter, and have their own administration in the city of Macao. The revenue of the colony for 1900 was estimated at 441,378 milreis, and expenditure at 405,397 milreis. The imports in 1898 were 8,768,356 milreis in value; exports, 8,203,906 milreis. Opium is manufactured in Macao for exportation to the United States and Australia, but this trade, amounting to 1,285,000 milreis in 1896, is on the decline. The commerce is chiefly transit, and is in the hands of Chinese.

The colony of *Timor* occupies the eastern part of the island of that name, and includes the neighboring island of Pulo Cambing. The revenue in 1900 was estimated at 144,531 milreis, of which Macao contributed 32,400 milreis; expenditure, 176,069 milreis. The colony was formerly administered from Macao, but since 1896 has had a separate administration. A delimitation of the Portuguese and Dutch parts of the island has been arranged. The area of the Portuguese possession is estimated at 7,458 square miles; the population at 300,000. Coffee is grown for export, and wax and other products are exported. The value of imports in 1897 was 318,312 milreis; of exports, 246,503 milreis.

In Africa Portugal possesses territories having an estimated total area of 792,040 square miles and 8,197,790 inhabitants. The *Cape Verde Islands* have an area of 1,480 square miles, with 114,130 inhabitants in 1896, mostly of mixed Portuguese and negro descent. Coffee, medicinal plants, and millet are produced. The revenue for 1900 was estimated at 364,129 milreis and expenditure at 319,941 milreis. The imports in 1898 were 1,558,047 milreis; exports, 194,608 milreis. The ports were visited by 3,225 vessels, of 3,365,137 tons.

The area of *Portuguese Guinea* is 4,400 square miles, with 820,000 inhabitants. The revenue in 1900 was estimated at 56,655 milreis, and expenditure at 216,742 milreis. The value of imports in 1898 was 458,566 milreis; exports, 223,136 milreis. The chief articles of export are rubber, wax, oilseeds, ivory, and skins.

The islands of *St. Thomas* and *Principe* have an area of 360 square miles and 24,660 inhabitants. The creole planters raise cacao in St. Thomas and coffee in Principe. Cinchona is another product. The revenue in 1900 was estimated at 404,196 milreis, and expenditure at 322,732 milreis. The value of imports in 1898 was 1,663,914 milreis, and of exports 2,536,978 milreis. The export of coffee was 1,825,776 kilograms, valued at 354,593 milreis; of cacao, 8,323,057 kilograms, valued at 1,132,148 milreis; value of cinchona, 29,686 milreis; of coconuts, 11,500 milreis.

Angola has an estimated area of 484,800 square miles and 4,119,000 inhabitants. The revenue in 1900 was estimated at 1,673,111 milreis, expenditure at 2,013,671 milreis. The military force was 4,010 men, of whom 2,858 were natives. The value of imports in 1899 was 6,314,846 milreis, against 6,187,263 in 1898; exports, 7,035,414 milreis, against 7,169,127 milreis. The number of ocean-going vessels that entered the ports of Ambriz, Loanda, Benguela, and Mossamedes in 1899 was 328, of 566,236 tons. There were 244 miles of

railroad in operation in 1899. The telegraph-lines had a length of 635 miles. The principal products are coffee and rubber, and after these wax, sugar, oils, coconuts, ivory, cattle, and fish. Copper, malachite, iron, petroleum, salt, and gold are found.

On the opposite coast of Africa from Angola Portugal possesses a territory embracing 301,000 square miles, with an estimated population of 3,120,000 (see SOUTH AFRICA).

PRESBYTERIANS. I. Presbyterian Church in the United States of America.—The following is the general summary of the statistics of this Church as they were officially published in the volume of the minutes of the General Assembly for 1901: Number of synods, 32; of presbyteries, 233; of churches, 7,779; of ministers, 7,532; of candidates for the ministry, 917; of licentiates, 336; of elders, 28,764; of deacons, 9,974; of communicants, 1,025,388; of members added during the year on examination, 54,252; of baptisms, 19,072 of adults and 26,163 of infants; of members of Sabbath-schools, 1,058,110; amount of contributions for the year—for home missions, \$1,252,159; for foreign missions, \$907,739; for education, \$93,397; for Sabbath-school work, \$122,850; for church erection, \$179,078; for the Relief fund, \$97,531; for the freedmen, \$144,695; for synodical aid, \$94,728; for the General Assembly, \$74,335; for aid for colleges, \$274,415; for congregational purposes, \$12,152,088; miscellaneous contributions, \$945,361; total, \$16,338,361. The number of communicants was 17,699 larger than in the previous year. The number of candidates for the ministry showed a continuous decrease, it being 591 less than in 1896, while the number of ministers was larger than in any previous year. A decided increase is shown in the total amount of contributions, which was \$1,284,075 larger than in 1900, and the largest in the history of the Church.

The Board of Education closed the year with a surplus, and a reserve fund which, after adding a legacy of \$5,000 recently received, would amount to \$17,973. The number of students under the care of the board had been steadily decreasing for several years, having fallen from 911 in 1897 to 600 in 1901.

The Board of Aid for Colleges during the eighteen years of its existence had aided 78 institutions in 29 States and Territories, while 36 schools had been founded with its help, its investment being secured by bond and mortgage. The total value of the property thus secured was \$1,521,158. The burden of debt had been removed from 26 institutions. The policy of the board now was not further to aid an institution that incurs a debt. Thirteen schools had secured endowment funds, so far amounting to \$413,754. The total sum gathered, used, or invested in eighteen years was \$2,312,909.

The Board of Ministerial Relief had had 931 names upon its roll of beneficiaries, 114 new names having been added during the year. The sum of \$38,825 had been paid to 136 honorably retired ministers. The total receipts for the year had been \$194,146.

The Board of Church Erection reported 227 applications made to it during the year, the total amount asked for (as loans or grants) being \$154,877. Appropriations had been made from the General fund of \$64,554 to 141 churches. From the Manse fund allotments had been made of \$26,780 to 63 churches. Other loans had been made from certain special funds, and special gifts, making the whole year's work amount to \$123,484 appropriated to 224 churches. One hundred and

eighty-four churches and manses, valued at \$476,948, had been completed during the year without debt.

The work of the Sabbath-School and Missionary Department of the Board of Publication and Sabbath-School Work had been carried on in 30 States and Territories, and Havana, Cuba. Ninety-three missionaries had been in commission, 767 Sabbath-schools had been organized and 304 re-organized, having in all 38,260 members. Of 66 churches the outgrowth of Sabbath-schools organized by the missionaries of the board, 54 were Presbyterian, with an aggregate membership of 1,067. The year's business of the publishing house amounted to \$500,000, and the profits to \$24,000, two-thirds of which had been given to the Sabbath-school department for its missionary work. The net capital of the board was now \$218,260.

The report of the Board of Home Missions gave the following statistics of the work: Number of missionaries, including 28 Mexican and Indian helpers, 1,342; of missionary teachers, 425; of members, 76,993; of members of congregations, 86,423; of Sabbath-schools, 2,018, with 117,113 members; of additions during the year on profession of faith, 7,207; of baptisms, 3,050 of adults and 3,386 of infants; of Sabbath-schools organized, 281; of church edifices, 1,520, valued at \$3,116,110; of church edifices built during the year, 63, at a total cost of \$128,164, while 250 church edifices were enlarged and repaired, at a cost of \$67,285; amount of church debts canceled, \$95,681; number of churches having reached self-support, 31; of churches organized, 37; of parsonages, 432, valued at \$464,720.

The Board of Missions to Freedmen had received during the year \$163,265, the amount showing a considerable increase over the receipts of the previous year, which were, in turn, larger than those of the year preceding. The sum of \$82,066, or \$10,304 more than in the previous year, had further been contributed to self-support on the field and reported to the board, but not entered in its accounts. An effort to raise \$250,000 for the endowment of Biddle University was approved by the General Assembly as a part of the Twentieth Century fund movement.

The treasurer's balance sheet of the Board of Foreign Missions showed total current assets of \$609,990; total invested assets, \$1,274,150; current liabilities, \$527,434; other liabilities, \$1,355,093, leaving an apparent surplus of \$1,621.

A considerable part of the report of the board was devoted to an account of affairs and conditions of the missions in China, in connection with the "Boxer" troubles, under which 5 missionaries had lost their lives and 178 communicants had suffered death at Peking and Pao-Ting-Fu. In the other mission fields the work had been prosperous, in some places even more so than in the most fruitful years of the past. The missionary force numbered 299 men and 416 women (715 European missionaries), 583 native ordained preachers and licentiates, and 1,258 other helpers—in all, 1,841 native assistants. The 636 native churches returned 41,599 communicants, 4,481 having been added during the year, while 718 schools were maintained, with 25,910 pupils, besides 38,137 pupils in Sabbath-schools. Eighty-four students were preparing for the ministry. The board had 117 mission stations and 1,182 out-stations in 13 different countries.

The receipts of the Woman's Board of Home Missions for the year had been \$357,201. Especial mention was made in the report of the large amount—\$39,367—paid for tuition. The freed-

men's department had received \$1,000, an increase of \$5,898. An increased demand for Bibles and Testaments was reported. Work among the un-Americanized races had been a feature of the General Assembly as the special field of the board, with responsibility to the Board of Home Missions.

The treasurer of the Women's Board of Home Missions reported that the contributions for the year had amounted to \$70,767.

The one hundred and thirteenth General Assembly met in Philadelphia, Pa., May 15. The Rev. Henry C. Minton, D. D., Stuart Professor of Systematic Theology in San Francisco Theological Seminary, was chosen moderator. A motion to repeal the "Peoria overture" (see Annual Cyclopædia for 1900) adopted by the preceding General Assembly was lost. The second day's sessions of the Assembly were given, in accordance with the program marked out by the previous General Assembly, to the celebration of the Twentieth Century. Three meetings were held in the Academy of Music, where addresses were delivered by selected speakers, and a Historical and Missionary Exhibit of the Church was opened in the Academy of Fine Arts. The treasurer of the Twentieth Century fund reported that the amount contributed to the fund to date—including only gifts actually made in legal form, returns of which had been filed in the treasurer's office—was \$3,397,031. In addition to this amount, mention was made, as not included in report, of contributions in St. Louis, Mo., of \$180,000 to a single enterprise, and of the subscriptions that had been made toward the effort to remove the mortgage on the Presbyterian building in the city of New York. The sum reported as subscribed had come from about 1,000 of the 7,800 churches represented in the General Assembly. The contributions were distributed among the several objects of benevolence, as follows: For the boards of the Church, \$106,030; for colleges and academies, \$330,642; for the theological seminaries, \$110,767; for hospitals, \$61,659; for the Young Men's Christian Association, \$117,464; for miscellaneous purposes, \$30,000; for payment of local debts upon churches, \$1,081,654; for improvements in local congregations (for church edifices and other improvements), \$1,537,913. The committee was continued for another year. In its resolutions on the subject the Assembly called upon every church in the denomination still burdened with debt and thus hindered from giving its full share to missions and benevolence, to remove its indebtedness within two years; invited consideration of the enlarged needs and opportunities of the various boards and other objects of contribution; and expressed its deliberate judgment "that it is the sacred duty and blessed privilege of the Church, at the beginning of the new century, to strengthen all the agencies and institutions employed in our work by furnishing a sum sufficient for their enlarged endowment and support."

The report of the Special Committee on Systematic Benevolence defined that term as applying, first, to the principles that should govern an individual church-member in his giving of money; and second, the arrangements that should be adopted by the churches, as churches, for their benevolent offerings; and expressed the belief that it was the teaching of Scripture that gifts of a church-member ought to be systematic rather than spasmodic; that they should be arranged for in advance, like other uses of money; that they should bear relation to the giver's receiving, never falling below some determined proportion of his income (one-tenth); and that definite accounts should be kept of them, so as to determine

whether the proportion has really been given. The committee recommended that the session of each church should, by some carefully arranged system, furnish the people opportunity to contribute every year to each of the boards. Instruction in methods of leading the people to a clearer recognition of their duty and privilege in the matter of giving was regarded as an important department of the training of young men for the ministry. Resolutions on the Sabbath reaffirmed the settled conviction of the Assembly that the law of the Sabbath is divine and of perpetual obligation upon all men; that the obligation of the preservation of its sacred character rests primarily upon the membership of the Church of Christ; renewed the request expressed in 1900 that Congress and the State legislatures make no more appropriations to industrial exhibitions except on condition that they are closed to visitors on the Lord's Day; affirmed the inalienable right "of every man to rest from labor on the Sabbath day, or the day commonly called Sunday," and requested corporations and all employers of labor to arrange for their men to enjoy it; and "most earnestly protested against any and all use of the Lord's Day as a day for business purposes and commercial interests, as well as against all uses of the day for sports, games, social functions, and worldly pleasures." A report was made by the Rev. Dr. R. S. Holmes on the effort to lift the mortgage on the "Presbyterian Building" in New York, showing that the amount to be raised had been reduced to \$250,000. The clearing away of the annual burden of \$48,000 interest would leave that amount to go into the treasuries of the Home and Foreign Mission Boards. The rentals of the building were about \$113,000 a year. The Special Committee on Theological Seminaries reported concerning conferences with representatives of those institutions that they were found to be agreed upon the more important subjects of conference, and no action of the General Assembly upon them was required. The Committee on Revision of the Confession of Faith reported a tabulated statement showing the votes of the presbyteries upon the questions which had been submitted to them to have been as follow: For revision, 47; for an explanatory statement, 11; for revision and an explanatory statement, 1; for a supplemental statement of doctrine, 52; for revision and a supplemental statement of doctrine, 15; for an explanatory statement and a supplemental statement, 1; for a substitute creed, 14; for an alternative creed, 1; for some change, 6; negative vote on all the questions, 4; indecisive vote, 1; for a dismissal of the whole subject, 50. Fifteen presbyteries in the United States and 16 in foreign lands were returned as not voting, the whole showing that 63 presbyteries favored some revision of the Confession of Faith and that 68 presbyteries favored some form of a supplemental statement of the "doctrines most surely believed among us." Majority and minority reports were presented on the general question. The minority report agreed with that of the majority except with regard to the section marked "B," from which it expressed dissent. This section recommended the appointment of a committee instructed "to prepare a brief summary of the Reformed faith, bearing the same relation to the Confession which the Shorter Catechism bears to the Larger Catechism, and formed on the general model of the Consensus Creed prepared for the Assembly of 1892 or the 'Articles of Faith' of the Presbyterian Church of England." The objection made to this instruction was that the action contemplated in it was not identical with the requests of the presbyteries,

and had therefore no considerable element in the Church which regarded it as at this time desirable; that it was liable to nearly all the objections which lie against a new creed; and that it erected an additional standard of orthodoxy. The Assembly, by a vote of 271 to 237, refused to adopt this report. Amendments were then made to the majority report, among which was one striking out the word "summary" in paragraph B and substituting for it the word "statement." The majority report as amended was adopted section by section, and was then finally adopted, as a whole, unanimously. It is as follows:

"A. We recommend that a committee as provided by the Form of Government, chapter xxiii, section 3, be appointed by this Assembly.

"B. We recommend that this committee be instructed to prepare and to submit to the next General Assembly, for such disposition as may be judged to be wise, a brief statement of the Reformed faith, expressed, as far as possible, in untechnical terms. The said statement is to be prepared with a view to its being employed to give information and a better understanding of our doctrinal beliefs and not with a view to its becoming a substitute for or an alternative of our Confession of Faith.

"C. We further recommend that this committee be instructed to prepare amendments to chapter iii; chapter x, section 3; chapter xvi, section 7; chapter xxii, section 3; and chapter xxv, section 6, of our Confession of Faith, either by modification of the text or by declaratory statement, but so far as possible by declaratory statement, so as more clearly to express the mind of the Church, with additional statements concerning the love of God for all men, missions, and the Holy Spirit. It being understood that the revision shall in no way impair the integrity of the system of doctrine set forth in our Confession and taught in the Holy Scripture."

The committee provided for in this action was made one of 21 members, and included the whole of the committee already existing and Moderator Minton, who was made chairman.

A plan for the institution of judicial commissions was approved to be sent down to be voted on by the presbyteries for adoption as an amendment to the Form of Government. It provides for the appointment of a standing commission of 15—8 ministers and 7 elders—the terms of 5 of whom shall expire every year, to be a court of final jurisdiction and sit by its own appointment. Another proposed amendment to the Form of Government sent down to the presbyteries provides that when societies within the Church for missionary and other benevolent and religious work cover only the territory included within a presbytery or synod, they shall be responsible only to such judicatories; but when they cover the territory of the entire Church they shall be responsible to the General Assembly. A plan of "vacancy and supply" was approved, under which the supervision of all vacant churches, within the bounds of each presbytery is assigned to a committee appointed by it. It shall be the duty of this committee to prepare and keep lists of all vacant churches within the bounds of the presbytery, and of all unemployed ministers available for work, and to arrange for the supply of the vacant churches from the list of available ministers or from such other sources as may be within its reach. The chairmen of all the presbyterial committees will constitute a synodical committee of similar character, which shall report to the General Assembly. A committee was appointed with the special duty of stimulating the

churches in evangelistic work, to consider the methods of such work and its conduct in relation to the churches. The report on Theological Seminaries, as adopted, sanctioned the union of the colleges and the theological seminaries in Kentucky into a single college and a single theological seminary respectively, as had been agreed upon by the local boards and judicatories having charge of the several institutions. Permission was given to the three presbyteries in Mexico to unite with the Southern Presbyterian presbytery there in the erection of the Synod of Mexico.

II. Presbyterian Church in the United States.—The following is a summary of the statistics of this Church reported to the General Assembly in May, 1901: Number of synods, 13; of presbyteries, 79; of ministers, 1,485, with 286 candidates and 64 licentiates; of churches, 2,991; of ruling elders, 9,234; of deacons, 7,876; of communicants, 227,991; of baptized non-communicants, 41,030; of members added on examination during the year, 8,319; of baptisms, 3,168 of adults and 4,596 of infants; of teachers in Sabbath-schools, 20,091; of pupils in Sabbath-schools, 149,567. Amount of contributions: For home missions (Assembly), \$26,317; evangelistic (local), \$124,872; for the Invalid fund, \$14,941; for foreign missions, \$134,745; for education, \$87,553; for publication, \$8,273; for colored evangelization, \$11,327; for the Bible cause, \$4,789; presbyterial, \$17,451; for pastors' salaries, \$814,308; for congregational purposes, \$795,510; miscellaneous contributions, \$125,593.

Small increases appear in most of the more important items.

The Executive Committee of Education reported that 75 of the 77 presbyteries were cooperating with it. One hundred and sixty-six beneficiaries had been enrolled and aided, in comparison with 195 in the previous year. The committee had received \$20,228 during the year, and had expended \$15,045.

The Assembly's home and school at Fredericksburg, Va., reported 37 orphans receiving instruction.

The year's accounts of the Executive Committee of Publication were balanced at \$46,980, while the assets were valued at \$117,185. Ten new books had been issued. The business of the publishing house had not equaled that of the previous year, which was, however, 25 per cent. larger than the average. Seven colporteurs had been in the field, and 10 young men had been employed during the summer months in Sabbath-school missions, and reported 49 Sabbath-schools organized, with 52 teachers and 891 pupils. The sum of \$5,171 had been appropriated for grants to needy Sabbath-schools, churches, and mission fields.

The Executive Committee of Colored Evangelization reported four evangelists engaged in the direct work of preaching to destitute colored people, and 40 mission schools for negroes, with 194 teachers and 2,321 pupils. The committee had aided in the building of 2 churches, had made appropriations for the erection of 4 others, had assisted a number of churches in making repairs, and had expended \$3,366 in keeping the churches under its care supplied with stated preaching. Four hundred and twenty students had been enrolled in the four schools of higher and academic grade. The committee had received \$7,460 on the General fund of colored evangelization, and \$3,009 on the Special Improvement fund of Stillman Institute; and had a balance of \$1,919 to the credit of the General fund.

The year's receipts of the General Assembly's Home Mission and Invalid fund had been \$55,-

356. The receipts for home mission had been \$26,916. Six missionaries had been supported among Mexicans, 75 ministers in Texas, 16 in Arkansas, 8 in Indian Territory, 16 in Florida, and 8 in the Indian schools. For the year the fund \$14,596 had been received, and \$12,413, 233 had been appropriated to 141 beneficiaries in 51 presbyteries, aiding 32 aged and infirm ministers and 109 widows and orphans of deceased ministers. Reports were made of work in the Indian Territory, Indian schools, the Mexican work in Texas, and work in New Mexico.

The Executive Committee of Foreign Missions had closed its year with a small balance over all liabilities. Its receipts from all sources had been \$163,056, or \$1,885 more than the receipts of the previous year. The sum of \$2,939 had been given for the Congo Boat fund. The total disbursements for the year, including the amount invested, had been \$173,653. One hundred and sixty-six missionaries had been employed. The number of additions to the native churches had been 642, an increase of 119 over the number reported in the previous year or in any year in the history of the board, and showing an average of more than 10 additions to each ordained missionary. A tabular statement was offered by the committee showing the growth of the missionary work and its cost during the past ten years, from which it appeared that the missionary force had increased from 85 in 1891 to 163 in 1900, and the total receipts from \$112,950 to \$161,162. The average cost of the work per missionary during the past five years had been between \$950 and \$1,000. This included the expense for home administration outfit, travel, and salaries of missionaries, house-building, and property purchased or rented, school and medical work, pay of native assistants, and all incidental expenses.

The General Assembly met at Little Rock, Ark., May 16. The Rev. Neander M. Woods, D. D., was chosen moderator. The *ad interim* committee appointed by the previous General Assembly to prepare amendments to the Book of Church Order on the subject of commissions presented majority and minority reports. The minority report was adopted and ordered sent down to the presbyteries for their approval. It defines a commission as "a body of presbyters to which an ecclesiastical court entrusts special powers for the performance of specific business. It differs from a committee in that it provisionally stands for and represents the court itself, and is empowered not only to examine and report, but also to deliberate upon, decide, and conclude the business submitted to it, its judgment on all issues submitted to it being in force from the time of the finding, and subject to the review of the court appointing it. Such review to be confined to errors of law and doctrine, unless by reason of newly discovered evidence it may be manifest that injustice will be done. To this end full records of the proceedings shall be submitted to the court, and if approved the judgment shall be entered on the records of that court as its final judgment. Committees are the executive agents of the Church and its courts, for the transaction of such business and the performance of such duties as may be entrusted to them. Every court of the Church has power to act by a commission, and to it may be properly committed the ordination of probationers for the ministry, the visitation of portions of the Church for the correction of disorders, the organization of churches, including the ordination of officers, the trial of judicial causes and similar cases requiring the exercise of authority and the judgment of the court. No judicial case, however,

coming up by way of appeal or complaint, from a lower to a higher court, shall be tried by commission without consent of parties; and in such cases, no member of a lower court who took part in the trial below shall be appointed on the commission. The ordination of probationers shall not be committed to a commission except in cases in which the presbytery shall have examined them and passed upon their fitness therefor."

Agreements had been made a few weeks before the meeting of the General Assembly, between the trustees of those institutions respectively, for the consolidation of Centre College, Danville, Ky., of the Northern Church, and Central University, Richmond, Ky., of the Southern Church, into a single institution to be known as the Central University of Kentucky; and of the Theological Seminary at Danville, Ky., of the Northern Church, and that at Louisville, Ky., of the Southern Church (Synods of Kentucky and Missouri), into a seminary to be called the Presbyterian Theological Seminary of Kentucky. On April 23, the synods interested in these institutions, the two synods of Kentucky (North and South), and the Synod of Missouri (South), had met in special session and given their sanction to the consolidations. The subject was brought before the Assembly which decided that it would interpose no bar to the union, but gave assent to it, leaving the entire responsibility thereof to the synods of Kentucky and Missouri. An Executive Committee of Ministerial Relief was instituted to take oversight of the whole work, including the administration of a relief fund for meeting the pressing needs of disabled ministers, and those of the families of deceased ministers. For collecting money for the purposes of this fund, the Assembly proposed reliance upon church collections, to be taken in July; "ministers' rates," or the payment of small sums annually by ministers who may be disposed to do so, and gifts and bequests to constitute an endowment. An *ad interim* Committee of Home Missions was designated, to be composed of the chairmen of the synodical committees of home missions, with instructions to take into consideration the whole matter of the home mission work of the Church, "in order to devise," if they "find it practicable, a more efficient plan of home mission work, and report the result to the next Assembly for its action." A department of Sabbath-schools and Young People's Societies was established. The action of the Assembly upon colored evangelization emphasized the duty of the Church toward the colored people, and suggested local organizations for work among them, and for the forcible presentation of the cause to the people. An order of the previous General Assembly directing the insertion of a footnote at the proper place in the Confession of Faith affirming that the Church does not teach the damnation of infants was rescinded. A catechism on The Church, prepared by a committee appointed for that purpose, was referred to the presbyteries for criticism.

III. United Presbyterian Church in North America.—The following is a summary of the statistics of this Church as reported to the General Assembly of 1901: Number of synods, 13; of presbyteries, 68; of ministers, 1,017, of whom 714 are enrolled as "pastors and stated supplies"; of licentiates, 84; of censures, 37; of students of theology, 68; of ruling elders, 3,908; of congregations, 995, of which 827 are provided with pastors and stated supplies; of mission stations in America, 32; of mission stations in the foreign field, 615; of new stations formed during the year, 15; of houses of worship erected, 20, at a

total cost of \$183,000; of parsonages, 350; of members in America, 116,934; in the whole Church, including the mission fields, 130,447; of members received on profession, 7,158; of baptisms, 4,163 of infants and 1,546 of adults; of Sabbath-schools, 1,208, with 12,989 officers and teachers and 120,032 scholars, returning contributions of \$109,446; of Young People's Societies, 1,057, with 41,966 members. Amounts of contributions in America: For salaries of ministers, \$616,789; for congregational purposes, \$627,282; for the boards, \$343,411; for general purposes, \$139,398; total for America, according to the footing of the table, \$1,726,880; total for the whole Church, \$1,751,291; average per member in America, \$14.89; average salary of pastors in America, \$1,009.

At the forty-second annual meeting of the General Committee of Home Missions, May 15 to 22, applications for aid were presented from 241 stations, asking for \$104,413. Appropriations of \$100,550 were made. Investigation was directed to be made with reference to work among the mountain whites of the South.

The permanent fund of the Board of Ministerial Relief amounted to \$116,090, an increase of \$9,890 accruing from a bequest. Sixty beneficiaries had been aided. A special provision has been made for ministers who have reached the age of seventy years and have been engaged in the pastorate thirty years or more.

The report of the Woman's Board of Missions mentioned extension of its work in India and Egypt. The year's receipts of the board had been \$75,805. The sum of \$39,618 had been contributed as thank-offerings.

The forty-third General Assembly met at Des Moines, Iowa, May 22. The Rev. J. A. Thompson, D.D., president of Tarkio College, was chosen moderator. The Committee on the Fifteenth Article of the Testimony, on secret, oath-bound societies, reported that they had not found any extended desire for a change in the article. All that was required was a deliverance by the Assembly as to the proper application of the article in its administration, giving to sessions a certain degree of discretion, as in the administration of other parts of the standards. The minute adopted by the Assembly recites that "in view of the existing diversity in the interpretation of the fifteenth article of the Testimony and in the application of it by sessions in the admission of members of secret orders, and in view of the general multiplication of these orders, and of their diversity in purpose and character, the Assembly adopts the following as expressive of the mind of the Church on the subject. The fifteenth article of the Testimony continues to express the general sentiment of the Church, and is hereby affirmed. Members of the Church of Christ ought not to have fellowship in associations which bind their members by oath or affirmation to obey obligations, and to immoral secrecy, or which establish a fraternal fellowship among men subversive of the unity of the body of Christ. It is especially obligatory upon Christians to stand aloof from the societies which by their moral teachings and religious ritual foster a belief in the salvability of men apart from the mediation of Christ. We condemn such organizations as most dishonoring to our Lord and injurious to men, and persons who, with knowledge of the truth concerning them, wilfully adhere to such associations shall not be received into church-membership. All such societies are included in the phrase of the Testimony "inconsistent with the genius and spirit of Christianity." The entire contents and bearing of the article should be emphasized in the pulpit teaching, and

the Testimony faithfully maintained by all. The article is not to be construed so as to exclude from the Church the membership of all such societies as are not bound by oath or affirmation or do not pledge to secrecy things unknown, or inculcate a Christian religion. In the administration of this article, as of others of the Testimony, sessions possess the right to exercise a wise discretion in dealing with such cases as may arise on their merits and in such a way as may best promote the glory of God and the edification of the Church. It is supposed that sessions are composed of men of understanding, and that they are acquainted with the principles and are faithful to the trust committed to them as officers of the Church. They may safely be trusted in the exercise of this power as courts of the Church, being, of course, responsible for the manner in which they exercise this discretion." The overture to repeal that part of the Confession of Faith referring to marriage with a deceased wife's sister having received a majority of the votes of the presbyteries, the Assembly declared the Confession so amended. It was represented in the report of the Freedmen's missions that the increase by profession of faith had been more than three times as large as in the previous year; that the liberality of the people was increasing and they were making commendable efforts toward self-support, the average per member having been one-third larger than then. The Assembly, holding that evangelization was more vital than secular education, approved the policy of establishing churches among these people; it further instructed the board to embody in its report a statistical table of the educational work among them. In the matter of foreign missions, the Sudan was constituted a distinct mission, and \$5,075 were appropriated for its use in the present year; steps were authorized for the incorporation of Asyut College, Egypt, and the Gordon Mission College in Rawal Pindi, with power to confer academic degrees; and the board was authorized to commission teachers and other helpers as missionaries, but without the right of membership in the Missionary Association. A minute of the Assembly on the subject of increasing the contributions of the Church recommended that each presbytery, at its next meeting, hold a conference on the work of the several boards and adopt a plan for increasing the interest of congregations in it; that pastors and sessions arrange a service in the interest of this work once a quarter during the coming year; that they make a special effort to secure from each member a contribution, and make a proportionate distribution of the funds according to the appropriations of the General Assembly; that the boards, acting jointly, prepare a program to be suggested for the services to be held by congregations; and that work be begun at once, and earnestly continued through the year. The subject of making desired changes in the membership covenant was referred to a special committee to report to the next meeting of the General Assembly.

IV. Reformed Presbyterian Church Synod.—The statistical tables of this body for 1901 give it 112 congregations, 10 mission stations, 125 ministers, 20 licentiates, 7 theological students, 9,733 communicants, 10,489 pupils in Sabbath-schools, and 2,264 members of Young People's Societies.

The Synod met in Pittsburg, Pa., May 29. The Rev. D. C. Martin, of Pittsburg, was chosen moderator. Reports were made by the Boards of Home and Foreign Missions and Church Extension recording advance during the year. The interest-bearing funds of the Church amounted to

\$295,226, and were invested at 5 per cent. Resolutions were passed condemning the liquor traffic and the tobacco habit, and exhorting the disuse of tobacco by members of the Church, urging the President and Congress to secure improved moral conditions in districts under military rule, approving the effort to secure uniformity in the divorce laws throughout the United States; insisting upon regard for the sanctity of the Sabbath, and advising members to refuse to attend the Pan-American Exhibition at Buffalo, N. Y., because of its being open on Sunday; and condemning labor organizations as commonly conducted, but expressing sympathy with efforts to improve the condition of the working men. On the subject of psalmody the Synod advised "the ministers and members of the witnessing Church" to maintain "unflinching fidelity, as in the past, to the divine injunction given by the Redeemer himself to the Church of Thyatira—'That which ye have hold fast till I come.'" Delegates were appointed to attend the Psalmody Convention in Ireland in the summer of 1902. A committee was appointed to formulate a plan for the more equitable distribution of home mission and church extension funds to churches applying for aid. A petition to Congress was adopted asking for the repeal of the Chinese exclusion laws. In it the Synod expressed acquiescence in the exceptions made in the emigration laws with reference to paupers, persons afflicted with infectious diseases, anarchists, and all who are hostile to the Government, but pronounced it "exceedingly unjust and wrong to discriminate against the people of any one nation alone." A delegate from the Christian Reformed Church in America was received, and a committee was appointed to confer with a like committee of that body, with reference to closer relations. A report was brought in to the effect that holding office under the United States, where no immoral oath is required, does not in itself constitute a sin, but warning the Church that discharging the duties of the office might be sinful. Action on this paper was deferred till the next year. Appropriations of \$39,500 were made for mission work.

V. Cumberland Presbyterian Church.—The following is a summary of the statistics of this Church as they were reported to the General Assembly in May, 1901: Number of synods, 16; of presbyteries, 122; of ministers, 1,586; of licentiates, 237; of candidates, 231; of churches, 2,963; of elders, 10,495; of deacons, 4,136; of members, 182,449; of additions during the year by examination, 9,022; of members of Sunday-schools, 104,996; of baptisms during the year, 5,956 of adults and 1,470 of infants; value of church property, \$4,267,561. Amount of contributions: For home missions, \$8,557; for special missions, \$5,078; for church erection, \$2,849; for foreign missions, \$14,445; for the Woman's Board of Missions, \$19,434; for education, \$11,788; for ministerial relief, \$10,939; for local and presbyterial missions, \$7,863; for the Children's Day fund, \$3,024; for synodical church extension, \$20,278; for building and repairing churches, etc., \$243,923; for pastoral support, \$389,695; miscellaneous contributions, \$89,630.

The Board of Ministerial Relief had received \$10,940, of which \$2,220 had been added to the Permanent fund, and \$8,720 had been available for the aid of 56 ministers and 49 widows of ministers. The Board of Publication returned \$5,107 net profits and nearly \$1,000 received by gift and otherwise. From these moneys \$3,769 had been applied to the reduction of the debt, which had been further diminished by the proceeds from the

sale of property \$8,000, while the assets had been increased by about \$2,300.

The Committee on Systematic Benevolence reported that interest was growing.

The report of the Educational Society represented that about 200 of the 505 probationers in the Church had been in school during a part or all of the time, while about 135 had been assisted by loan or gift through the society or by particular congregations and individuals. A home course of study recommended by the Assembly six years before for probationers who could not go to school had been generally adopted and had become a means of elevating the standard for ordination. The total disbursements had been \$11,146. The permanent fund amounted to \$8,000. Accounts were given of the condition of four colleges and universities, the Theological Seminary at Lebanon, Tenn., and six other institutions. Colored schools at Huntsville, Ala., and Newbern, Tenn., had been aided.

Reports were made to the Woman's Board of Missions of synodal and presbyterial work, the mountain mission and school at Hopewell, N. C., the Colegio Morelos, at Aguas Calientes, Mexico, and mission work among the Chinese at San Francisco and Merced, Cal.

The Board of Missions reported estimates for the ensuing year of \$11,000 for home and \$17,000 for foreign missions, involving the need of an increase of \$6,000 in the receipts. Accounts were given of the foreign mission work in China, Japan, and Mexico, and of home mission work at sixteen stations. A Chinese missionary was laboring among the Chinese in the Pacific Synod. Thirteen church extension workers were employed by synods. The receipts for church erection had been \$2,849. The sum of \$5,461 had been returned from loans during the year, while \$2,575 had been loaned to churches. The total missionary receipts for the year had been \$85,550, of which \$19,779 had come through the Woman's Board.

The seventy-first General Assembly met at West Point, Miss., May 16. The Rev. E. E. Morris was chosen moderator. Miss Vianna Woosley appearing as a commissioner from Leitchfield, formerly Nolin, Presbytery, the right of a woman to a seat in the General Assembly was again brought into question. The Assembly decided: "*Whereas*, Some presbyteries have several times in the past sent women as ruling elders to represent them in the Assembly; *And whereas*, This question has tended to disturb the peace of the Church, which peace we have pledged to study; *And whereas*, The General Assembly has declared, and does declare, such elders unconstitutional representatives; *Resolved*, That the presbyteries be instructed not to send women to represent them in the future; *Resolved*, That this shall not unseat nor lead to the unseating or expelling of any commissioner of this present Assembly." A protest was entered against this action, based on the ground that the Assembly had declared it unconstitutional for presbyteries to send women elders as commissioners, and at the same time had conceded Miss Woosley's right to a seat, thus making a conflict deliverance. A proposed constitutional amendment providing for rotation in the office of ruling elder and deacon, having been approved by the presbyteries, was ratified. A ruling of the previous General Assembly practically demitting ministers who have remained out of presbyterial membership more than three years was revoked. A report on divorce was adopted, declaring that according to the Confession of Faith the marriage relation should not be interrupted except upon Scriptural grounds, and that according to Scrip-

tural example and injunction conjugal infidelity is the only cause for the granting of divorce. The report on the theological seminaries embodied a historical citing from the records of all the transactions in relation to the seminary from the beginning, the whole tending to show and leading to the conclusion that "the General Assembly in founding the Theological Seminary designed to control the same." In the light of this statement, the Assembly affirmed that the seminary was its property and under its control, and decided that due provision be made for its management, so as to make it, as it was designed to be, the seminary for the whole Church; that the Board of Trustees should be composed of members of the Cumberland Presbyterian Church; that the principle of rotation as applied to the other boards should prevail in the terms of service of the trustees; that all funds for the seminary should be received and held by the trustees for the Assembly; and that the wording of charters and other documents relating to the seminary should be made to conform to the claim of the Assembly to its control. The Committee on Centennial Endowment reported that \$203,000 had been secured for the endowment of Cumberland, Trinity, and Lincoln Universities, in addition to which a new university, called, after its benefactor, James Miliken University, had been founded.

The General Assembly of the Colored Cumberland Presbyterian Church met at Pratt City, Ala., in May. The Rev. E. J. Simpson was chosen moderator. The reports of the several committees testified to a growing interest among the membership of the Church in the causes of missions, education, and church extension.

VI. Presbyterian Church in Canada.—The statistical reports of this Church, made to the General Assembly in June, showed that almost 10,000 members had been added during the year on profession of faith, and that 71 churches and 27 mansees had been erected. The total contributions of the Church for all purposes were \$2,601,451, of which sum \$347,754 were given to the educational, missionary, and benevolent work. Counting interest on receipts from investments and the contributions for the Century fund, the whole amount of receipts would considerably exceed \$500,000.

The twenty-seventh General Assembly met in Ottawa June 12. The Rev. Dr. Robert H. Warden was chosen moderator. The Committee of the Century Fund reported that the \$1,000,000 aimed at had been secured, and such a sum in addition that it was proposed to make the contribution one of \$1,500,000. A check for \$10,000 had been sent by Lord Strathcona, and a contribution of \$20,000 was expected to be given by Sir Donald Smith to the Aged and Infirm Ministers' fund as soon as certain conditions were complied with. A plan was presented embodying the details for the management of the several departments of the fund. Measures were further recommended and approved by the Assembly for marking the opening of the century by a direct advance movement in spiritual life and religious activity. The condition of the Aged and Infirm Ministers' and the Widows' and Orphans' funds was made the subject of special conferences of the elders members of the Assembly, whose recommendations, adopted by the Assembly, included the giving of greater prominence to the two funds before the Church, and the introduction of business principles into their administration. The home missions were represented as in a state of rapid growth, extending through all the Northwestern States and Territories and calling for constant accessions of

working force; and the estimates for what would be required in the ensuing year considerably exceeded the nearly \$90,000 that had been expended upon them during the past year. An assistant superintendent was appointed. The Board of French Evangelization reported concerning 85 preaching stations, 12 colportage districts, and 16 mission schools. The receipts for foreign missions had been \$35,298 for the Committee of the Eastern Section, and \$105,513 for the Committee of the Western Section. An additional grant was made by the Assembly for educational work (the college) at Indore, India. Notice was taken of the death of Dr. G. L. MacKay, the pioneer missionary of Formosa. Applications for the relaxation of terms of ministerial qualification in particular cases where special needs were to be met, and for the enactment of a uniform minimum standard of qualification for persons who take part in catechetical work in the mission fields, were referred to special commissioners for consideration. Special provisions were made, in view of extraordinary cases seeming to justify such legislation, for giving limited ministerial privileges for not less than one year nor more than three years to persons appointed by the Home Mission Committee with the consent of the presbyteries in which they are to labor. A scheme for the establishment of reading-camps among lumbermen was approved. The Committee on Aids to Public Worship in New Fields was instructed to complete its volume and submit it to the next General Assembly for approval. A proposal for the appointment of an executive for the whole Church was sent down to the presbyteries as a remit.

VII. Presbyterian Church in Mexico.—The Synod of the Presbyterian Church of Mexico was formally organized as an independent branch of the Presbyterian Church July 8. It is composed of the presbyteries of Zacatecas, the city of Mexico, and the Gulf of Mexico, comprising the churches of the Northern Presbyterian Mission, and of Tamaulipas, of the Southern Presbyterian Mission. Systematic Presbyterian mission work in Mexico was begun in 1872, when the Northern Church sent its first missionaries. The Southern Church followed in 1873. The labors of the missionaries have been very successful in gathering converts and training a native ministry. The expediency of consolidating bodies and placing them upon a footing independent of foreign influence had been recognized for some time, and preparations had been gradually making for it. The Northern and Southern General Assemblies of 1901 gave their sanction to the movement. The meetings of organization were held in the city of Mexico. The preliminary meeting, July 6, was presided over by the Rev. Thomas F. Wallace, D. D., of Zacatecas, the oldest of the missionaries, and the address of welcome to the members of the Synod was made by Rev. A. Morales, while responses were made by representatives of the general assemblies and other persons. The formal organization of the Synod, July 8, was preceded by a discussion of its constituent elements, when it was unanimously determined that the missionaries should be members of the body, on the same footing as the native ministers. The communications of the two general assemblies and the action of the presbyteries approving the organization were read, and the Westminster standards and the Form of Government were accepted as the faith and order of the Church. The Rev. Arcadio Morales, pastor of the Church of the Divine Saviour, city of Mexico, was chosen president of the Synod. Fraternal delegates were ap-

pointed to the general assembly in the United States.

VIII. Church of Scotland.—The number of communicants on the rolls of the Church at the end of December, 1900, was 601,629, an increase of 5,517; and the whole number that communicated at least once during the year was 474,929. The number of baptisms was 30,247, and the number admitted to communion for the first time was 26,054. According to the annual report of Christian liberality, the contributions during the year amounted to £444,053, an increase from the previous year of £21,730; of seat rents, £71,378; of ordinary church-door collections, £113,382; of collections for parish or local missions, £17,762; for buildings, £7,811; for general church objects, £93,728. The legacies amounted to £10,583.

The General Assembly met in Edinburgh, May 21. The retiring moderator, the Rev. Dr. Norman Macleod, in his retiring address, after referring to the consummation of the union of the free churches, said that he saw no reason why an end so eminently patriotic and Christian as that of a larger presbyterian union might not be attained. To that end reasonable concessions on the one hand and on the other might be made, but in such a manner as would consume all that was deemed essential to the present constitution of this Church as the national Church of the ancient Kingdom of Scotland. If, however, there might not be an incorporating union, there might, at all events, be a greater amount of harmonious co-operation. The Rev. Dr. M. Mitchell, of Leith, was chosen moderator. A motion was adopted inviting conferences in favor of union, with the reservation that this Church steadfastly adhered "to the principle of the national recognition of religion, and of the conservation for religious uses of the patrimony of the Church." A deputation consisting of representatives of the United Free, the Episcopal, and the Established Churches, asking that a day of prayer in behalf of Christian unity be designated, was received by the Assembly, and it resolved to take whatever steps were necessary to observe such a day. A committee appointed by the previous General Assembly to consider what power, if any, the Assembly possessed to alter the Confession of Faith, brought in three reports, of which the "original report," declaring that the Church has no power to modify, abridge, or extend the Confession of Faith, and that that can be done only by Parliament, was adopted, with an addendum declaring that the Assembly would proceed no further, though it desired to enlarge rather than curtail liberty.

IX. United Free Church of Scotland.—The number of members of this Church as reported to the General Assembly in May (for Dec. 31, 1900) was 488,795, against 495,174 in the Free and the United Presbyterian Churches together on the 31st day of December, 1899. While the Lowland synods had increased from 457,531 to 458,194, the Highland synods had fallen from 37,643 to 30,601. Ninety-eight congregations which had in the previous year returned a membership of 8,364 this year made no return.

The report of the Finance Committee to the General Assembly dealt with the expenditure of the Free Church for nine months and of the United Presbyterian Church for the whole year. The total income in the Free Church for the period designated, excluding certain funds locally administered, amounted to £552,355; that of the United Presbyterian Church to £96,289; and the invested funds were £293,979.

The General Assembly met in Edinburgh May

21. The Rev. Thomas Kennedy was chosen moderator, and in his address spoke in general terms of the results of the union. The Committee on Union presented a short report, which referred principally to the efforts made to unite congregations in localities where that policy might be expedient. The report on the conditions in the Highlands, where many members and congregations of the Free Church refused to be bound by the union, represented that the union had aroused feelings of thankfulness and hope; but undoubtedly in certain parishes strife and division had gone so far that the people had been assembling in hostile camps. It had always been thought desirable to minimize the evils connected with such a state of things by avoiding needless agitation. At the same time it was impossible to leave unsupported and uncared for the ministers of the United Free Church and the people who desired to have Gospel ministrations at their hands. A report from the Committee on Romanism and Ritualism commented on certain ecclesiastical events of the year. A deputation of representatives of the Established Church, the Episcopal Church, and the United Free Church waited upon the Assembly in behalf of the appointment of a day of prayer for unity. The subject was referred to a committee, the report of which as adopted by the Assembly said that any attainable approach to a larger measure of organic unity in the country would best take place by mutual recognition, by cooperation in good works, and by union of churches which are akin to one another in faith and constitution. The report on Church and state affirmed that the termination of the statutory convention now maintained between the state and the Church of Scotland seemed to be a necessary step toward relations between churches in Scotland which were very widely desired.

Judgment was given by Lord Low at Edinburgh, Aug. 9, in the suit brought in behalf of the minority of the Free Church to be declared entitled to possession of its funds and property. The arguments of the plaintiffs were reviewed in the decision. To their plea that the constitution of the Free Church had been violated by the union, the court replied that in its opinion the union did not involve the giving up of any doctrine or principle which formed any part of the essential or fundamental portion of the creed of the Free Church, and that although the Establishment principle was an essential principle of the Free Church at the time of the disruption in 1843, it had become unessential. The second plea, that the union was incompetent in the face of the dissentient minority, was characterized as absurd. Concerning the claim of the plaintiffs to participation in the funds and property of the Free Church, the court held that the minority either constituted the Free Church or were entirely separated from it. It took the view that they were separated, and consequently had no right to participate.

X. Free Church of Scotland.—The General Assembly, representing those ministers and members of the Free Church of Scotland who refused to enter the union with the United Presbyterian Church (see the *Annual Cyclopædia for 1900*) met in Edinburgh, May 21. The Rev. J. D. McCulloch, of Glasgow, was chosen moderator. In nominating him to the Assembly, the retiring moderator, the Rev. Colin A. Bannatyne, asserted that the Assembly met in circumstances more prosperous and full of hope than the most sanguine could have anticipated six months before. The business of the Assembly consisted mainly in the reorgani-

zation of the concerns and committees of the Church, which had been disorganized, so far as this body was concerned, by the going over of those who had chiefly managed them, into the union. A resolution was passed denouncing the "Deceased Wife's Sister bill," the adoption of which, it was declared, would constitute "an assault upon the requirements of divine law and the Confession of Faith." A committee report stated that the strength of the Church was in the Gaelic-speaking part of Scotland. Twenty-five ministers were in charges, but there were several vacancies. The income of the committee had been £283, an amount which would be fully required to settle the accounts.

At the meeting of the Commission of this Church, held at Edinburgh, March 6, it appeared that 92 congregations in at least 11 presbyteries, 26 ministers, and 18 regular paid agents, with 50 preaching stations, adhered to the principles of the protest. Twenty-five applications for employment had been received.

XI. Presbyterian Church in England.—The statistical reports of this Church submitted to the Synod of 1901 show that it had 321 congregations, 76,111 church-members (an increase of 1,570), with 166,391 sittings in the churches, and church buildings having an estimated value of £2,004,450, less indebtedness of £101,659. The total income of the Church had been £298,711, against £306,847 in the previous year. The aggregate amount paid for stipends was £98,848, an average of about £300 per minister. Other items reported were 80,983 pupils in Sunday-schools (a falling off of about 3,000), 14,664 teachers in Sunday-schools, district visitors, and members of Dorcas Societies, and 6,614 members of Young Men's Societies.

The contributions for foreign missions amounted to £35,363, showing an increase of £6,000 over the previous year. There were now in the field 20 ministerial missionaries, 13 doctors, 4 missionary teachers, 24 Women's Missionary Association agents, and 4 woman doctors, besides 27 wives of missionaries; with native pastors and evangelists. The native members numbered 7,157, showing an increase of 419. Notwithstanding the outbreak in China, the work had made a distinct advance.

The Synod met in London, April 29. The Rev. James Christie was chosen moderator, and spoke in his address of the coronation oath, the sanctions of which he thought would be strengthened "by expunging the acerbities of an age of fierce antagonisms," Presbyterian union, and the forward movement in the Free Churches. The Synod expressed thankfulness that the Church Building fund of £50,000 had been successfully raised, and instructed the Home Mission Committee to bring up rules to the next Synod for the establishment of a permanent Church Building fund. Instead of appointing a stated evangelist, it was decided to set apart three ministers to carry on evangelistic work during a part of the year; and "inasmuch as the Church's ordinary methods of work were not fully suited to reach the poorer classes of the people," a special committee was appointed to consider respecting provision for undertaking work on lines which have been found successful in other churches.

XII. Welsh Calvinistic Methodist Church.—The statistical reports of this Church, made to the General Assembly in May, showed that it had 1,572 chapels, with 879 other buildings, apart from chapel houses and manse, with 158,114 communicants, showing an increase of 2,056, and 319,261 hearers. The aggregate of collections for the past year had been £283,903.

The General Assembly met at Aberystwith, May 21. The Rev. T. J. Wheldon was chosen moderator. It appeared from the reports that of the 18 new churches which had been planted during the year, 11 were English. Welsh Wales had been abundantly supplied, and it was urged that the home missionary efforts of the Connection must now be brought to bear upon English Wales. The Welsh churches had increased 1.04 per cent. during the year, and the English churches 3.58 per cent. The committee having the care of provision for the spiritual wants of Welsh people in other countries reported that there were 5,000 Welsh in Australia, and that while 4,000 persons left Wales every year for London, the Welsh churches of all denominations in the metropolis could account for no more than 1,000 of this number. The foreign mission report showed an increase of 413 communicants in the Indian mission (Khassia, Jaintia, and Sylhet), with 15,048 adherents, 19,335 hearers, and 13,878 members of Sunday-schools, while the collections in the native churches amounted to £1,440. The native churches had started a century collection. Another mission of the denomination is in Brittany. The receipts for missions from all sources had been £7,978, and the expenditures £13,397. The report on temperance called attention to laxity in practise by many members of the Church. A handbook containing all the connectional rules was ordered prepared for publication.

XIII. Presbyterian Church of Australia.—The Presbyterian Church of Australia, formed by the organic union of the Presbyterian Churches of the six states of the commonwealth, was constituted, and the first General Assembly met July 24. The drawing together of the Presbyterian churches in the Australasian colonies began as far back as 1865, when the three branches of Presbyterianism in New South Wales united. The movement that has culminated in the present general union began about twenty years ago, when a federation of the churches was established, and a Federal Assembly was constituted, which has met regularly since. But this was a body without powers. In the meantime the disposition to unite organically has been developed, and the steps necessary to effect a legal union have been taken. Among them was the obtaining of legislation in the several states, permitting and confirming the adjustments of property which would have to be made. The Federal Assembly met for the last time on the evening of the day preceding the meeting of the United Assembly, July 23. The final report of the Committee on Union was submitted by the Rev. John Meiklejohn, setting forth that the scheme of union had been unanimously agreed to by all the state assemblies, and that the necessary parliamentary legislation had been obtained in all the states except West Australia, which would also shortly pass the necessary act. The moderators of each of the several local assemblies in turn made a declaration in behalf of their assemblies of the adhesion of those bodies to the deed of union, and of their authorization to affix their official signatures to the paper. The balance-sheet was read, showing a handsome balance, which was passed on to the United Church. After the completion of these acts the Federal Assembly was declared dissolved. At the meeting of the new General Assembly the Rev. James Cameron, moderator of the General Assembly of the Presbyterian Church of New South Wales, was appointed temporary chairman. The basis and articles of union were adopted, and the deed of union was signed by all the moderators, when the union was declared consummated, and

the present meeting was constituted the first General Assembly of the new Church. The Rev. John Meiklejohn, of Melbourne, was chosen moderator. At an evening public meeting held at the same time congratulatory greetings were received from the evangelical churches of Australia and New Zealand, and the Presbyterian Churches of Scotland and England. A resolution was adopted expressing a desire for closer relations with other evangelical churches, and inviting steps toward a federation.

The union embraces the Presbyterian Churches of the six states of Australia, viz., New South Wales, Victoria, Queensland, South Australia, West Australia, and Tasmania. The basis of union consists of the Westminster Confession with an annexed declaratory statement, and may be amended upon agreement of a majority of the local assemblies, three-fifths of the presbyteries, and three-fifths of the members of the General Assembly. The articles of agreement, containing the rest of the constitution of the Church, can be altered or added to from time to time with the consent of simple majorities of the local assemblies, the presbyteries, and the General Assembly.

XIV. Presbyterian Churches in New Zealand.—The Presbyterian churches of New Zealand have not entered the Australian union. The two bodies, however—the Presbyterian Church of New Zealand and the Presbyterian Church of Otago—have taken steps toward forming a union of their own. A bill dealing with their property has been introduced into the colonial Parliament, and the subject is under consideration by the assemblies.

PRINCE EDWARD ISLAND, a province of the Dominion of Canada; area, 2,133 square miles; population in 1901, 103,258. Capital, Charlottetown.

Government.—The ministry was practically a continuation of the Liberal Government formed by Hon. Frederick Peters in 1891, succeeded by that of the Hon. A. B. Warburton in October, 1897, and replaced by that of the Hon. Donald Farquharson, which was formed in August, 1898. The elections were held on Dec. 12, and the principal point at issue was the financial condition of the province. It was declared by the Opposition that the public debt had increased from \$500,000 to \$620,000 in the preceding year, and that revenue and expenditure would not meet. The result of the polling was that the Government's very slight majority was greatly increased, the new house showing 23 Liberals and 7 Conservatives. Mr. Gordon was reelected, and the Government was reorganized on Dec. 28, as follows: Prime Minister, Donald Farquharson; Attorney-General, Arthur Peters, K. C.; Provincial Secretary-Treasurer and Commissioner of Agriculture, Benjamin Rogers; Commissioner of Public Works, J. H. Cummiskey; ministers without office, J. W. Richards, Peter McNutt, George Forbes, R. C. McLeod, and M. McDonald.

On Jan. 29 the Hon. Benjamin Rogers, who had recently been appointed to the new post of Commissioner of Agriculture, was reelected to the Legislature over Mr. Dalton by 681 votes to 587.

Legislation.—The first session of the Legislature was opened on March 19 by Lieut.-Gov. P. A. McIntyre, after the members had taken the oath of allegiance to the King and Samuel Edward Reid had been elected Speaker. The speech from the throne contained the following passages: "I am pleased to state that this province has shared in the general prosperity of the Dominion, consequent to a great extent upon the abundant

crops and the fairly good prices obtained for our products.

"It is a matter of devout thanksgiving that in the long and arduous struggle in South Africa British arms have been victorious, and equal rights and freedom, as exemplified under British rule, is assured to the people of that country. We also feel proud of the manner in which our Canadian soldiers acquitted themselves; they have brought credit and honor to this country and raised Canada in the eyes of the world. We rejoice that so many of the brave heroes who went out from this province in the Canadian contingent have been spared to return to home and friends. Two of our young men have laid down their lives for Queen and country, and their memories will ever be cherished by every loyal subject in this their native province.

"The rapid growth and development of the various branches of agriculture upon which the prosperity of our province so largely depends suggests the propriety of giving every encouragement and assistance to our farmers by the dissemination of practical information with regard to the best methods of feeding and caring for stock, as well as the manufacture of dairy-products and fruit-culture. Some superior stock has lately been inspected by my Government which will, I am sure, be of great benefit to the country. At the beginning of the present year the Department of Agriculture was constituted and a commissioner appointed, whose efforts will no doubt result in advancing the agricultural interests of the province.

"A delegation of my Government recently visited Ottawa for the purpose of impressing upon the Federal Government the great necessity of supplementing our annual subsidy. A memorial fully setting forth the demands of the province in this particular respect was presented to the Cabinet, and the matter argued at length. There is good reason to hope that the result will be satisfactory.

"The working of our present road act, while entailing a heavy expenditure, has not proved satisfactory. A measure will be submitted for your consideration for the purpose of enacting some changes in the present method of keeping up our public highways."

The acts that were passed included the following:

A public roads act.

To ratify and confirm agreement between the governments of Canada and Prince Edward Island in respect of claims for non-fulfilment of the terms of union.

To amend an act to impose an income tax.

To amend an act passed in the sixty-third year of the reign of her late Majesty Queen Victoria entitled "An Act to impose certain taxes on certain companies and associations and brewers."

To impose taxes on certain life insurance agents.

For the encouragement of agriculture.

To amend an act prohibiting the sale of intoxicating liquor.

Respecting the use of tobacco by minors.

To prevent the destruction of woods, forests, and other property by fires.

An act to amend several acts relating to congregations of Presbyterians within this province, in connection with the Presbyterian Church in Canada.

Finances.—For several years the finances of the province had not been in a very satisfactory condition, and this fact was one of the issues in elections of 1900 as well as the supposed cause of the Premier's visit to Ottawa about the same

time. On April 12, 1901, the figures were published for the preceding year and showed receipts amounting to \$282,056 and ordinary expenditures of \$308,494, together with expenditures upon capital account of \$47,499. The receipts included the Dominion subsidy of \$181,931; the provincial land tax of \$28,245; the sale of debentures at a price bringing \$22,000; the taxes upon special interests—commercial travelers \$8,140, incorporated companies \$6,062, ferries \$5,706—amounting to \$19,908; the succession duties, \$3,641; and liquor-sellers' registration, \$4,700. The chief items of expenditure were \$16,595 upon the administration of justice; \$129,112 upon education; \$21,123 upon the Hospital for Insane; \$20,861 interest upon loans, etc.; \$7,443 upon legislation; \$7,469 upon the poorhouse and paupers; \$17,118 upon ferries; \$23,503 upon roads; and \$20,496 upon bridges. The expenditure of \$14,920 upon the Prince of Wales College and that of \$20,890 upon the Hospital for the Insane were the principal charges to capital account. At the same date the Premier stated that the debts of the provincial Government included \$112,775 to the Royal Bank of Canada, \$69,411 to the Bank of Nova Scotia, and \$10,396 to the Merchants' Bank of Prince Edward Island. The loans account stood at \$170,858, and the amount due on debentures at \$222,263. This made a total provincial indebtedness of \$585,703.

On May 8 the Hon. Mr. Farquharson delivered his budget statement. He announced that the provincial claims upon the Dominion had at last been recognized, and \$30,000 a year given as compensation for the non-fulfilment of the confederation compact regarding steam communication with the mainland. He then referred to some of the items of expenditure recorded above. The new building for the Prince of Wales College was costing \$38,000; the annex to the Insane Asylum, when finished, would cost about \$50,000. In other directions they had been doing good work. "Our steam service on the ferry routes is more efficient than it was under our friends opposite. The boats and wharves are better kept up, and the cost is \$10,000 a year less. We have introduced 33 road machines, which do efficient work, and have ordered 2 more. We have built some steel bridges, and a number of cedar and stone structures, all over the province." The expenditure on education and on the Hospital for the Insane was yearly increasing, but he did not see how this could be avoided. He defended the principle of issuing debentures for the construction of public works, and stated that the \$35,000 worth sold for building the college and paying 3½ per cent. for thirty years had brought more than their face value. In the past year another \$22,000 has been sold. Turning to the receipts, he said that no other country had so low a succession tax, and that the liquor-sellers' registration would soon cease. The land and income taxes were slow in collection. For the ensuing or current year he estimated the receipts at \$314,581, including \$181,931 from the Dominion, \$30,000 from the land tax, \$16,000 from road revenue, and \$15,000 from the additional (half-year) Dominion subsidy. The estimated expenditure was \$294,127 on general account and \$20,147 on capital account—a total of \$314,274.

The Opposition leader followed, and figured out a deficit in the current year of \$42,000. He based this upon the probable falling off in land-tax returns, the increased cost of roads, and the loss of liquor licenses. The Prince of Wales College, Mr. Gordon thought, was costing a little too much, and the cause of the increased insanity in the province should be investigated.

Tobacco Legislation.—By the terms of a measure introduced in the Legislature, any person who directly or indirectly sells, gives, or furnishes cigarettes, cigars, or tobacco in any form, to a minor under sixteen years of age is subject by summary conviction to a penalty not exceeding \$25, with or without costs, or to imprisonment with or without hard labor, for a term not exceeding thirty days, or to both fine and imprisonment, at the discretion of the convicting magistrate. The youth who is found smoking or possessing cigarettes or tobacco was also made liable to a penalty not exceeding \$5, or to imprisonment for a period not exceeding seven days. The subject was debated in the house on March 25, when Mr. J. F. Whear declared that the use of tobacco was increasing among the young, and expressed his strong belief as to its detrimental effect upon the mental faculties and nervous system. Mr. Gordon thought the law could not be enforced, and would tend to encourage smoking rather than restrict it. A. J. McDonald considered the whole thing a farce and an injury to trade. Mr. Hughes was afraid of the influence this legislation would have upon the tobacco trade, when profits were now very small. He was in the drug business, and could testify to the increase of the habit of smoking cigarettes. The measure finally passed and became law.

Agriculture.—At a meeting of the Charlottetown Board of Trade on March 7, 1901, a resolution was passed recapitulating the dependence of the province upon its agricultural resources; the suitability of the soil and climate for raising the best kind of beets, as demonstrated by experiment and analysis; the fact that a company had been formed for the development of this industry and had announced its intention to establish a factory in the island, provided the Federal Government would pay them a bonus of 1 cent a pound; the benefits which would accrue to the farmers, laborers, and business men from such a policy as well as from the expansion of trade, and the consequent increase in transportation over the island railway. It was therefore resolved: "That in view of securing to the island the establishment of a beet-sugar factory, we urge upon the Dominion Government the necessity of a bounty of 1 cent a pound for a term of three years on the beet-sugar manufactured within this province." But the Federal Government would not go further than the admission of machinery free.

On April 4 the Hon. Mr. Rogers, Commissioner of Agriculture, presented the following motion to the Legislature: "Resolved, that it is desirable to introduce a bill to provide for the appointment of a professor of agriculture, with annual salary to be fixed by the Lieutenant-Governor in Council, and for the organization of agricultural societies throughout the province, and for the encouragement of the various branches of the farming industry of this island by an annual grant of public money to be distributed to such societies in proportion to the number of their paying members." Each agricultural society must have a membership of 50, paying a fee of 50 cents, before the Government grant of \$50 was paid. Their estimate was that 39 societies would ask for this grant, involving an expenditure of \$1,950. The Professor of Agriculture had already been appointed at the Prince of Wales College, and his duties would be the giving of instruction in the college, management of the Government farm, lecturing throughout the province, the improvement of stock-breeding, and filling the post of secretary of the department.

Meanwhile, in March, official statistics were

made public of the work done by the cheese and butter factories of 1900. The figures showed 59,901,455 pounds of milk received; 1,431,539 pounds of cheese made, \$445,663 its gross value of the cheese; 578,726 pounds of butter made, and \$123,052 as its gross value.

Road System.—Perhaps the most important legislation of the session was that relating to public roads. On April 15 the Hon. Mr. Cummiskey moved a resolution declaring that it was desirable to repeal the public road act of 1879, and to provide for the carrying out of the system in a more efficient manner. He declared that people throughout the province were crying out for a change. He gave statistics of expenditure upon the roads—not including the value of statute labor—during the Conservative rule of 1881-90 as having been \$236,728, or an average of \$23,672 a year. Under Liberal government, between 1891 and 1900, the amount was \$238,489, or an average of \$23,848. In place of statute labor, where the indolent man either threw the work upon his neighbor or made himself and his neighbors suffer from bad roads, it was proposed to impose a small tax on men and horses now subject to perform statute labor. Contracts for road construction and repairing were to be thrown open to public tender. Mr. Cummiskey estimated the number of men subject to the new tax at 15,766, and the horses at 20,055. The proposed levy of 75 cents on the former would bring a revenue of \$11,824, and on the latter of \$5,013. The cost of operating the roads under the new system, by which road machines were to be used wherever practicable, he placed at \$20,860, while the average expenditure of recent years had been \$23,848 without including statute labor. One machine and 2 men could do the work of 50 men in the ordinary way.

As finally passed, the measure defined with care the duties of road inspectors, contractors, overseers, justices of the peace, and stipendiary magistrates.

Education.—The annual report of the Chief Superintendent of Education was issued in April, 1901. The number of schools was given as 468, the school districts as 471, and the school departments as 586. There were no schools vacant during the year. The number of teachers employed was 586, of whom 314 were men and 272 women. There was an increase of 13 woman teachers and a decrease of 9 man teachers over 1899. The number of pupils enrolled was 21,289, a decrease of 261 from the previous year, and the smallest number since 1882. The percentage of attendance showed an increase. The expenditure by the Government was \$129,113, the largest in the fifteen years with the exception of 1898. The amounts voted at school meetings was \$34,055. The average salaries of men showed very little change, and included \$774 as the highest down to \$180 as the lowest. The salaries of women ranged from \$357 to \$130. The average time spent in teaching was only four years, and as soon as teachers could see their way to "law, medicine, or husbands" they left the profession. The superintendent summed up with the statement that the close of the year 1900 marked "the highest point yet reached" in the educational progress of the province.

PRINTING, PROGRESS OF, IN RECENT YEARS. Nearly all the improvements that have been made in printing belong to the nineteenth century. In 1800 there were printers in all the large cities of the world, but they were using practically the same rude tools and slow methods that marked the work of Gutenberg, Caxton, and

Manutius. To-day there are single printing-establishments that could turn out as great a volume of printing in a week or a year as did all the printers of the globe in 1800. The industry now ranks as one of three or four that are the greatest in the world. Accurate statistics can not as yet be produced to show this, but the conclusion may be deduced from reasoning and observation. The United States census returns for 1880 show printing and publishing to be the seventh industry in value of products reported, and that this product had more than trebled during the preceding ten years; the rate of growth was greater than that of any other large industry. If the rates of growth for the larger industries of the United States were maintained in the last decade as in the previous, then the printing industry should rank first to-day. In any case, it is reasonably certain that printing and publishing ranks with foundry and machine-shops, iron and steel manufactories, and men's clothing as one of the four greatest industries. There are more than 1,000 printing-offices in New York city alone, and there are about 25,000 newspaper offices, and nearly as many job-printing offices, in the United States and Canada. The total number of printing-establishments of all sorts in the world is believed to be nearly 100,000.

It has been estimated that the newspapers and periodicals of the United States and Canada circulate nearly 4,000,000,000 copies annually, and that the remainder of the world's issue might double these figures; but, as newspapers are prone to overstate the facts, doubtless the truth is well within these figures. Observation indicates that the volume of commercial printing is not greatly below the volume of newspaper-printing.

The quality of printing has increased strikingly, but the cheapening of the work is more remarkable. Forty to sixty years ago 4-page newspapers were sold in the United States for 5 cents, which represented about one-twenty-fifth part of a workman's daily earnings. Now newspapers of 16 pages are sold at 1 cent, and the workman's earnings have doubled, so that the twenty-fifth part (10 cents), will buy 160 pages of newspapers, or forty times as much in bulk. The reduction in the cost of books is almost as great. Neatly bound volumes are now commonly sold at 25 cents each, whereas at the close of the civil war books were mostly quoted at \$2 or more. This reduction in cost has been brought about largely by the following agencies: 1. Rotary printing-machines, operable at much higher speeds than the flat-bed reciprocating presses; 2, the use of paper in the roll, instead of in single sheets that had to be fed in one at a time by hand; 3, the substitution of pulped wood instead of the more costly rags as a material for making paper; 4, the introduction of composing-machines, each of which performs the labor of five to six men; 5, the development of mechanical processes of engraving, making illustrations both better and cheaper than wood-engraving. To these might be added a very great number of minor causes, embodying the general improvement in all sorts of machinery and processes that enter into the production of printing.

Type-Founding.—The early printers cast their own types. Type-founding as a separate business began in England about two hundred years ago. The first permanent foundry in the United States was that of Binny & Ronaldson, established in Philadelphia in 1796. Their successors are in business there to-day as a branch of the American Type-Founders Company. The Bruces, of New York, did more to develop type-founding here

than any other concern. George Bruce accomplished a great deal in the way of systematizing sizes, styles, and bodies of type, and the firm of D. & G. Bruce originated and introduced a great many new faces. David Bruce, Jr., invented the type-casting machine, which came into use about 1840. In 1892 a majority of the type-founders of the United States organized as the American Type-Founders Company, and since that date have largely controlled the business, having branches in the principal cities, and being opposed by only a few large foundries.

About 1890 what is known as the "point system" of type-bodies came into general use. It was started in America by Marder, Luse & Co., in 1873, and proved so convenient that other foundries were eventually driven to its use. The system consists in making the widths of type-bodies—that is, non-technically, the thickness of the lines—all on a uniform scale. The smallest standard size of newspaper advertising type (formerly called agate, and differing a little in size with almost every foundry manufacturing) is now known as 5½-point, and any 5½-point from any foundry can be set in the same line with 5½-point type from any other foundry. This article is set in 8-point type. The well-known size formerly called pica is now 12-point. The point is 0.0138 of an inch, and all type and leads, type-furniture, etc., are now made in even points. Within a few years the Inland Type-Foundry, of St. Louis, has been manufacturing type called "point set," which is made in widths that measure even fractions of a point in the direction of the length of the line. As far as possible the widths are even points and half-points, though in smaller sizes it is necessary to use the quarter-point and eighth-point as the minutest units. The European type-founders have point systems of their own, which are different from the American. Most of their type is made practically of the same height as the American, so that it is possible to print them together in the same page or form, but the differences of body are such that this is not convenient, and very little European type is sold in this country and very little American type sold across the Atlantic.

The Barth automatic type-casting machine was brought out in the Cincinnati Type-Foundry eight years ago, and has been taken up by the American Type-Founders Company, and is now being used to produce a large portion of the body and job type made in America. This machine delivers the type completely dressed and ready for use, requiring only inspection to discover any poor casts that may occur by accident. In England the Wicks rotary type-casting machine was introduced in 1899, and is said to deliver type at the rate of 60,000 an hour, a rate heretofore unknown in type-casting.

Type Composing and Distributing Machines.—Several hundred patents have been granted in England and the United States on machines for doing the work of the compositor. The first machine of any note that attempted to solve the problem of rapid composition was invented by Dr. William Church, of Connecticut, in 1820, and patented in England in 1822, but did not come into practical use. His method was to cast and set the type directly from the molten metal. At the Paris Exposition of 1855, Christian Sörensen, of Copenhagen, exhibited a machine that set type and distributed simultaneously. This also failed of commercial success.

The Alden machine, patented in 1857, and developed in New York, had the type arranged in cells, around the circumference of a horizontal

wheel or cylinder. There were several receivers, which rotated with the wheel, and in their rotation they picked up the type. Its capacity of composition was about 3,500 ems an hour. A great deal of money was spent on this machine, and the company is still in existence.

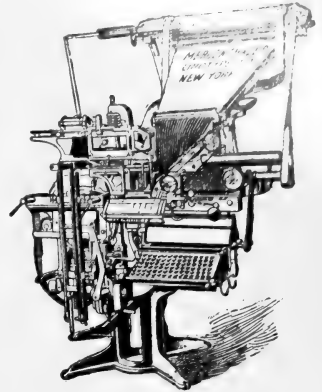
An English machine, devised by Alexander Mackie, and patented in 1866, was in two parts. One was a little instrument consisting of 14 keys, by means of which a narrow strip of paper was perforated preparatory to being used in the machine proper. This consisted of three flat rings, one above the other, the upper and lower being stationary. On the top ring were 20 pockets, each containing 7 kinds of type. The middle ring traveled around the circle. It had 20 "pick-pockets," each "pick-pocket" being subdivided into 7 legs and 7 fingers. There was a drum over which the perforated paper traveled by a positive motion, about one-tenth of an inch at every movement. The type were gathered from the respective pockets, as the middle wheel went round, and then sent along a delivery-channel to a traveling belt, which carried them along down a siphon spout, one letter upon another, and held ready for justification. The machine is the prototype of the more recent Goodson and Lanston machines.

The Frazer and Kastenbein composing-machines in England and the Burr and McMillan machines in the United States have all met with some success and been sold to some extent in the past twenty years. They may be classed together as gravity machines, in which the types are kept in upright channels and pushed out one at a time from the bottoms of the channels by the operation of a keyboard. They are now all practically out of date, though efforts are being made to modernize them and put them on a basis to compete with the Mergenthaler linotype. About 1895 the Burr was reconstructed as the Empire, and a considerable number were sold. It has since been provided with a justifying mechanism that largely reduces the labor cost.

A large number of other composing-machines have been projected, some of them at enormous cost, yet without finding a market. Among these was the Paige machine, on which nearly \$2,000,000 was spent and lost (the machine being now stored at Cornell University as a mechanical curiosity), the Risley & Lake matrix machine, the Sears typomatrix, Lagerman typotheter, composite type-bar, Goodson matrix machine, Johnson type setter and caster, and others, which are still being experimented with. The Rogers typograph, and also the monoline machine—both somewhat similar to the linotype—were prevented from being used in the United States because of infringing Mergenthaler's patents, but some of them are in use in Europe.

About 1886 the Mergenthaler linotype machine came into commercial use, and after a few years of development and patent suits it took the lead, and since 1894 it has been enormously successful. About 8,000 machines have been sold, and they are still selling at the rate of about 1,000 a year, though the price is \$3,000, with extras. This machine was the invention of Ottmar Mergenthaler, of Baltimore (see Annual Cyclopædia for 1899, page 623), and marks the most radical change in methods of composition since the time of Gutenberg. The line is used as the unit, instead of a single letter. In other words, the machine produces and assembles complete cast lines of type, ready for the column. The machine is worked by finger-keys, as is the typewriter. The fundamental parts are a series of matrices, each containing a single letter or character, and a

series of spacing devices of variable thickness. The matrices are arranged in the channels of a magazine in the upper right-hand corner of the machine, and provided with escapement, so that the operation of a key is followed by the escape of a matrix as required. The space-bars are arranged by themselves, and discharged in like manner by the touch of a key. As the matrices emerge from the magazine they are received on an inclined traveling belt, and delivered, one after another, into a receiver, and assembled into line. When the line is full, the operator touches a lever, and the composed line is transferred



THE MERGENTHALER LINOTYPE.

to the face of a mold. A melting-pot containing a supply of molten type-metal, and provided with a force-pump, is connected with the mold; the casting is made instantly, and the matrices are removed and transferred to the distributing mechanism, by which they are returned to the original magazine channels for further use. The organization of the machine is such that the manipulation of the keys, the casting of the preceding line, and the distribution of a still earlier line, are carried on concurrently and independently. The capacity of the linotype machine is from 3,000 to 10,000 ems an hour, or about five times the speed of a hand compositor. A new face of type is obtained at each casting. The spacing is absolutely uniform, automatic, and instantaneous, by the expansion of the compound space-bars. These spaces are compound wedges, released as required, and at the close of the line are all driven forward until the line space is properly filled.

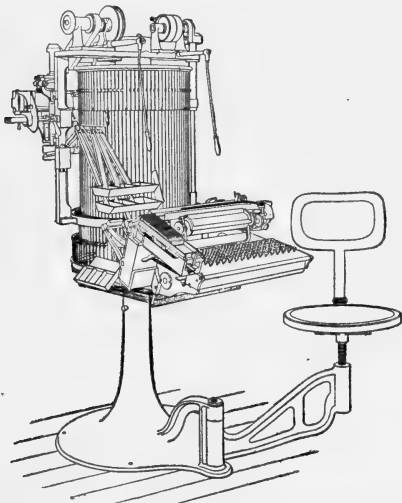
Though Mr. Mergenthaler was justly entitled to and received the credit of producing this remarkable machine, yet other inventors contributed patents that added much to its commercial success. Among these are John R. Rogers and Philip T. Dodge. A great variety of minor improvements have been added of late years, increasing the usefulness of the linotype. The most recent and valuable of these is the two-letter matrix, which enables both Roman and italic characters to be produced from the same keyboard, through the aid of a shift-key, operated very much as the shift-key of a typewriter.

The present year the Mergenthaler Linotype Company have introduced the "junior linotype" machine, which is an improved and perfected form of the Rogers typograph, and offered it for sale at \$1,500, supplying the demand for a linotype machine in country newspaper offices.

The Scudder monoline machine, producing a product similar to the linotype, is built and sold in Canada.

Thorne's cylindrical type setting and distributing machine was brought out about 1880. It comprises a distributing as well as a setting mechanism, either of which may operate independently, or both work simultaneously. In 1898 it was remodeled and improved, and it is now known as the simplex. The cylinders are mounted vertically one above the other, the dis-

tributing section above and rotating. The type-setting cylinder is stationary. Each cylinder has an equal number of tangentially arranged type-channels, in which the types rest upon their sides in vertical lines, so that when the bottom type of a line is removed the space it occupied is immediately filled by the descent of its line. The distributing-cylinder is caused to rotate by a step-like movement at the top, which brings its channels to coincide with and momentarily rest directly over those of the setting-cylinder. Each type has its appropriate series of nicks, which, coming in contact with the corresponding wards in the channels of the lower cylinder, cause the type to be dislodged and drop into the proper place. In composition the depression of a particular key selects the desired type, which is immediately pushed from the bottom of its line out upon a rapidly revolving disk by means of a rotating driver, which automatically operates the appropriate horizontally moving ejector. The



THE UNITYPE COMPANY'S SIMPLEX TYPESETTING MACHINE.

type, on being ejected from the column recess, is thrown edgewise by the revolving disk against a guard-rail, which rail directs the type lengthwise in its circular travel upon a belt that conveys it to a revolving lifter. By this it is raised into a long setting-stick that extends across the machine in front of the operator. Types successively ejected upon the disk, as their appropriate keys are depressed, follow each other in correct order to the conveying-belt and into a setting-channel. After a quantity equal to six or seven lines in one long strip has been composed, the operator swings his seat over to the left, and takes the lines into a galley and justifies them—that is, spaces out between the words so that every line is of the same length. The distribution of the type is carried on automatically while the composition is being done at the keyboard.

The simplex machine is also to be manufactured with an automatic justifier, in which form it is to be known as the unitype.

The Dow composing- and distributing-machines are now attracting much attention in the printing trade. The composing-machine is the first to be provided with a simple, practical, and inexpensive automatic justifying device. Other type-composing machines have failed to compete successfully

with the linotype because an extra man had to be provided for doing the justification or spacing out of the lines, or because the justifying mechanism provided was too complicated or too costly in its operation. The Dow is the first of the type-setting machines proper that can be operated at a high rate of speed by one man. It is not a gravity machine, like most typesetters, but operates positively, pushing the types with certainty wherever they are wanted. The operator at the keyboard manipulates the keys for a line, decides where to finish the line, ends his word or divides it with a hyphen, and strikes a line-key. The machine then automatically takes the line away, measures the amount of remaining space required to fill the line to the width of the column, divides this space by the number of vacancies between the words in the line, supplies spaces of the proper justifying size, inserts them, and thrusts the completed and perfect line into the galley. In the meantime the operator has been at work on another line, and when that is set the machine handles it automatically as the first, and so on. The distribution is effected by a separate machine, which simply requires to be supplied with "dead" type for distribution, and to have an attendant take away the distributed type, properly arranged in channels for the setting-machine. This distributor will supply enough type for three or four fast operators on the keyboards of the setters. The machines are designed to be used for any ordinary width of measure or size of type, this being the first typesetting machine proper to handle several sizes of type in the same machine.

There are also two or three forms of composing-machines that cast the type and melt it up again instead of distributing. Of these the Lanston monotype has been longest before the public, being first exhibited about 1890. This has been used in several places, formerly on the Philadelphia Inquirer, and now on the New York Sun. The mechanism is ingenious and complicated. The Goodson graphotype is a somewhat similar machine, with much fewer parts. The system used on these machines, originated by Mackie, is based on the use of a punched paper tape, which is prepared on a sort of typewriter. The punched holes represent letters and characters, and when the tape is prepared, it is run backward through a type-casting machine, serving to direct that machine what type to cast. As the type are cast they are set up in lines and columns automatically.

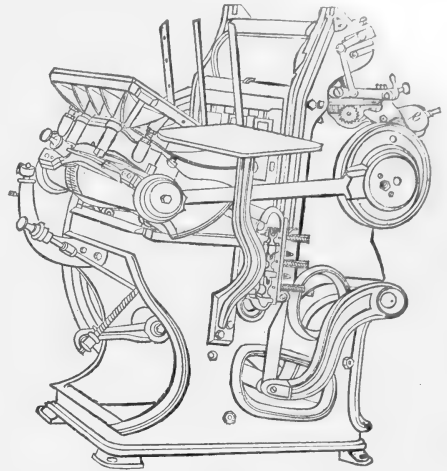
Other composing-machines, known as the St. John, Converse, Johnson, Botz, etc., are announced as in course of preparation, to be marketed within a few years.

Printing-Presses.—The Gutenberg press consisted of a screw, moved by hand, which raised and lowered a platen, thus taking the impression from the form of type placed upon a flat bed. The first advance made upon this was by William J. Blaew, of Amsterdam, about 1620. His press was used in England till the end of the eighteenth century, when the Earl of Stanhope caused to be constructed a press with an iron frame and having a combination of levers to assist the pressman in obtaining a heavier and better impression. In 1827 a hand-press called the Washington, with an improved toggle motion, was invented by Samuel Rust, of New York. This patent became the property of R. Hoe & Co., who since then have made many thousands of these presses, and they are in extensive use to-day for taking proofs and single impressions. The printing-presses in modern use may be divided into several classes: Job

and platen presses are the small machines, frequently run by foot-power with a treadle, used to print stationery, cards, and all sorts of small sheets that are done in small quantities. Cylinder presses are characterized by a flat bed for the type, which reciprocates under a cylinder that gives the pressure for printing. Perfecting presses are those which perfect the sheet by printing it on both sides at a single operation. Web presses print from a roll or web of paper, which is cut up into sheets after printing and before delivery from the machine. In rotary presses the flat reciprocating type-beds are dispensed with, the form usually being made of curved stereotype or electrotypes, mounted on cylinders. This renders it possible to make practically all the mechanism rotary, thus permitting a printing speed about ten times as fast as that obtained from reciprocating type-beds. Rotary presses are usually web presses and also perfecting presses, though flat-bed machines are made that print from the web and that perfect the sheet.

Platen Job-Presses.—The father of the modern platen job-press was the late George P. Gordon, of New York, who received his first letters patent in 1851. He obtained 50 patents, extending over a period of twenty-three years, and brought the machine to a high degree of accuracy, power, and simplicity. In the earlier machines the platen rocked from a horizontal position to receive the impression from a vibrating bed. A simplifying procedure was entered into, and in 1874 the rocking platen was dispensed with, a vibrating platen being substituted. A throw-off was also added, by which an accidental impression was prevented. Further, the adjustment of the parts was so secured that a "dead dwell" or prolonged impression was given on the type before the platen returned. In 1856 the double-disk ink distribution was applied. The demand for cleanliness and clearness in ink-work caused the attempt in 1879 to apply the ink distribution of the cylinder press to the job-press. The system is known as the Glastaeter distribution. The Gordon press has been built in many forms, but that known as the Gordon-Franklin has proved the most popular

from small presses than could be had from those of the Gordon type. The Gordon was simple, and quick, but to meet certain other requirements heavier machines with more elaborate ink distribution were required. Of this class were the Globe, Universal, and Colt's Armory presses. The Globe fell out of use in a few years. The

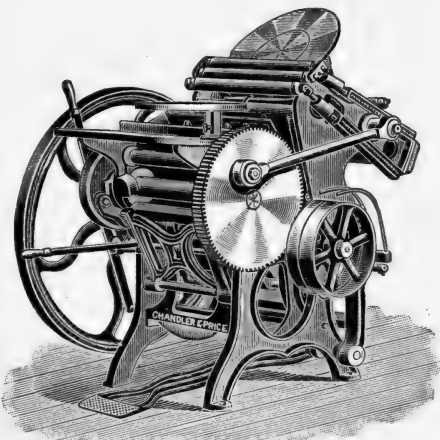


THE GALLY UNIVERSAL JOB-PRESS.

or Universal press was invented by Merritt Gally, of New York, and patented in 1869. The bed and entire framework of the machine are in one solid casting, thus making the bed rigid, and obviating the possibility of shaking joints. The combination of the platen and crank movement is a special feature, and causes three distinct stages of the platen motion: first, a stop for feeding the sheet, the platen standing at a slight angle; second, a rolling action, bringing the platen parallel with but standing away from the form; third, a forward slide to the impression, where it meets the type direct and square. The press has been successfully used for heavy letterpress and illustrated work, paper-box cutting and creasing, inlaying book-covers, stamping and embossing, printing on tin, wood, etc. The adjustment provides for printing material of any thickness from tissue-paper to $2\frac{1}{2}$ inches. In addition to the corner-screws for setting the platen the press has an impression-adjuster. There is a graduated arc and slide, by means of which a latch may be set to any position on the arc, thus adjusting the impression to any degree of pressure without changing the tympan.

The Thomson Colt's Armory press is of the most solid and strong construction, being designed to bring up the heaviest forms of half-tone or other difficult work. The distribution-cylinder is supplied with a great number of vibrating and other rollers, so that the ink is cut up to the last degree of fineness. The design of this press is mechanically as accurate as any machine can be, and so positive is the register, so firm the impression, and so delicate are the adjustments that the machine is commonly used for the highest grade of three-color and other difficult work.

The Golding jobber is of a type half-way between the two classes described. It is designed to have the speed and easy working of the Gordon, with the capacity for ink distribution and strong impression of the Universal type of presses. It has convenient special devices, and is admirably adapted to a wide range of com-



THE CHANDLER & PRICE COMPANY'S GORDON PRESS.

and outsold any other form of printing-press. The machine as now made by Chandler & Price, the largest manufacturers, is illustrated herewith.

The cylinder-distribution type of platen-jobber was introduced to secure a higher grade of work

cial work. It has been imitated by foreign builders, as have most of the machines named.

The Degener Liberty press was manufactured and sold very widely in the sixties and seventies. The Peerless press also sold very largely in the seventies and eighties, but these machines are now almost out of use. A large variety of machines similar to those described are manufactured and sold under various names all over the world.

Cylinder Presses.—In order to comprehend the working of cylinder presses, it should be understood that each one ordinarily has a flat bed, geared to reciprocate at an even speed with the revolving cylinder. The sheets of paper are fed to the cylinder, and in its revolution are carried on the inked form until printed. The stop-cylinder press is one in which, after the sheet is printed, the cylinder is brought to a stop while the bed is running back, and during this time a fresh sheet is placed in position. In the double-cylinder press, two cylinders are used, and they take sheets alternately. In a two-revolution press there is but one cylinder, and it makes two revolutions, once in contact with the type and once in a slightly raised position while the type is passing back without contact. The drum-cylinder press has a cylinder of large diameter that makes but one revolution to each impression, a segment of the circumference only coming in contact with the type. The first press of this character was devised by Frederick Koenig, a Saxon, about 1806. He introduced these machines into England, in connection with a fellow mechanic named Bauer, placing them first in the office of the London Times. Koenig also invented, about 1814, a press in which the cylinder continuously revolved—that is, it was made to rise on the return motion of the bed, and then to fall again to take the impression as the bed moved under it. The first practical cylinder presses made in the United States were manufactured by the firm of R. Hoe & Co., who also introduced here, in addition to their own patents and improvements, the new devices patented in England by Cowper, Applegath, Napier, and other English makers. As already stated, this firm was established in New York by Robert Hoe before 1820, but these cylinder presses were not introduced into the market to any extent until 1832. Improvements were made in them, the cylinder being reduced in size and arranged to make two or three revolutions to each motion of the bed, thus giving greater speed. Every effort was made so to perfect the movements of the bed backward and forward as to give a greater yield per hour, to supply the demands of newspapers, which were then coming into vogue and having constantly increasing circulations.

The press known as the "stop-cylinder" was first patented and manufactured in 1852 by a Frenchman named Dutartre, and was introduced with patented improvements in the United States by Hoe & Co. in 1853. Machines of this kind, with various alterations and additions, were also made by Campbell, Cottrell, Potter, and others. The stop-cylinder was much favored for many years, because the bringing of the cylinder to a dead stop at the time of the taking of the sheet afforded opportunity for perfect register—that is, printing of the sheet absolutely in the same place at every impression. The two-revolution press was a faster machine, however, and preferred on that account for less particular work. About 1885 Robert Miehle devised a new bed movement for two-revolution presses, besides other useful devices, and built a two-revolution press that gave

increased accuracy and speed. In a few years this press became so popular that it began to drive out the stop-cylinder, and as a consequence many makers have introduced higher grades of two-revolution presses, which meet every demand of quality and can be operated as rapidly as the paper can be supplied by hand.

Hoe & Co. brought out in 1846-'47 what was known as the "Lightning" press, a type-revolving machine, and for several years it was the only available press for daily journals requiring a large edition. In this machine the type was placed upon horizontal cylinders, the column-rules being made V-shaped, so that the type should stand firmly on its feet on the curve, and it was locked up securely by means of screws. Around this cylinder were placed other horizontal cylinders, and the paper was fed directly by each feeder to the impression-cylinder, the patented sheet-flier being brought into play to deliver the sheets on as many separate delivery-tables. Even these were found inadequate to meet the demands of the increasing circulations of the larger journals. Furthermore, ten men as feeders were required on the largest of these machines. Stereotyping on the curve, from papier-maché molds, was introduced about this time, which enabled the duplication of forms at small expense. The first rotary perfecting press that printed from a continuous web or roll of paper was made in Philadelphia in 1865, by William Bullock. His machine was imperfect in the delivery. Meanwhile the proprietors of the London Times made a press known as the Walter, which was used in only one or two offices besides the Times. Marinoni, of Paris, also made presses on a similar principle, with separate fly-boards for delivering the sheets, which were handled by boys. In 1871 Hoe & Co. constructed a press that superseded all these. By means of a patented device, with a gathering-cylinder for receiving the sheets as they came from the press, they were delivered in lots of six papers at a time by a sheet-flier in an even pile. From one set of stereotype plates 15,000 papers an hour were produced. This machine was introduced in most of the large newspaper establishments, and in some instances, owing to the possibility of duplicating the forms by curved stereotype plates, 10 or 12 of these presses were placed in a single office.

Folders.—Up to this time the folding of newspapers was done by hand, by the newsdealer or the carrier. But increasing circulations necessitated some method by which the papers could be folded automatically and as they came from the press. The earliest of these consisted of a series of striking blades forcing the paper consecutively between rollers at right angles, there being a blade for each fold required; but the action of the blades was not rapid enough to keep up with the production, and it was necessary to have for each machine substantially two separate folders on this plan, which was based on the book-folding machines fed by hand, which had been made by Chambers Brothers, of Philadelphia. Something simpler and with less mechanism became a necessity, and the first rotary folders were made by Hoe & Co. in 1875. These were applied to "single" machines.

Large Stereotype Perfecting Machines.—In 1876 Anthony & Taylor, of England, took out patents for methods of turning paper in the web, or roll, so as to present the reverse side to the printing-cylinder before cutting off the sheets. These patents, as well as the patents of L. C. Crowell, of Boston (who had devised ingenious machines for making paper bags), became the property of Hoe & Co., and from these and addi-

tional inventions of their own they evolved the perfect folding apparatus used upon the large double-supplement, quadruple, sextuple, and octuple machines made by them. These presses have revolutionized the art of printing newspapers. They print upon 1, 2, or 3 rolls of paper, giving 4-, 6-, 8-, 10-, 12-, 14-, 16-, 20-, or 24-page papers, as required, delivered folded, pasted, and counted, in piles, at speeds varying from 12,000 to 150,000 perfect papers an hour. These machines may be seen in all the large newspaper offices in the United States, Great Britain, Australia, and New Zealand. The largest of them weighs about 58 tons, and is composed of 16,000 separate parts; but, notwithstanding the number of pieces composing these machines and their apparent intricacy, they are extremely simple in principle and in operation. All the devices in them, including the triangular formers and the principle of handling the paper and keeping it entirely in the endless sheet, or web, until the final fold, are the result of great study and ingenuity, and the subjects of many patents.

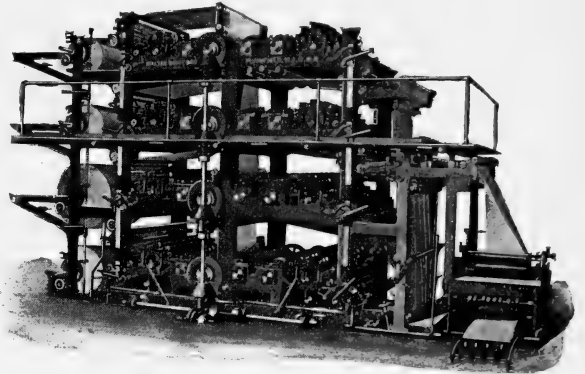
Rotary Machines.—The great improvements in the making of electrotypes plates, and the increased economy and accuracy with which they can be produced, have led to their use upon rotary presses. These machines are often referred to as magazine presses, being adapted to the wants of magazines or other illustrated publications requiring a good grade of work at a high rate of speed. Such machines not only print papers of multiple pages, but place upon them, automatically, covers of different colored paper, and stitch the product together with wire staples as the papers issue from the machine, at the running speed of 12,000 or more copies an hour.

The rotary principle has been carried to still greater perfection for fine wood-cut and half-tone work in machines made for Theodore L. De Vinne & Co., printers of the Century Magazine. These machines deliver the pages of periodicals and other similar work, printed on both sides, in signatures, folded together, without smutting, and ready for the binder. Some are made to print from the endless roll, and others to feed by hand; but the curved electrotypes plate is used in all, it being found that equally good work and greater economy in production may be had from the rotary system than from the cylinder presses that take the impressions from type or plates placed upon a reciprocating flat bed. Simultaneous polychromatic printing on the rotary system is one of the most remarkable developments in newspaper and periodical printing. Many journals now print, with their large weekly editions, illustrated supplements in colors and half-tone, one side of the sheet having colors and the other having engravings in black. These machines print at the rate of about 26,000 4-page sheets an hour. They print from curved electrotypes plates, the cylinders being arranged so as to give a separate impression surface for each color. The papers are delivered folded, without marring the pictures.

The Scott rotary web perfecting press is the production of Walter Scott, who began life as an engineer and pressman on a Chicago daily. It was originally an elaboration as well as a systematizing of the Bullock. Scott constructed the first combined printing and folding machine that fed from a roll and produced perfect copies,

cut, pasted, and folded, at one operation. Within recent years his rotary press has been greatly developed. The factory of Walter Scott & Co., at Plainfield, N. J., is one of the largest in the country, and turns out nearly 40 styles of rotary web perfecting presses for newspapers and periodical printing. The straight-run machine shown in the illustration receives paper from rolls at 4 different levels, and prints on both sides, then brings all the paper together, folding, cutting, pasting, and delivering as complete newspapers. It is really 4 8-page printing-machines arranged in stories, to produce 32-page newspapers, or any regular less number, as 24, 16, 8, as may be desired. It is also built of double width, with quadruple folders, in which form it will deliver 100,000 8-page papers completed within one hour.

Among the smaller web machines made by Scott & Co., the "all-size" rotary has attracted much attention. Most rotary web printing-presses are built to produce newspapers or periodicals of a certain size, and they will not print a larger or smaller page, though the number of pages issued at a printing is variable. In the "all-size" rotary, any size of page within the capacity of the machine may be produced, the

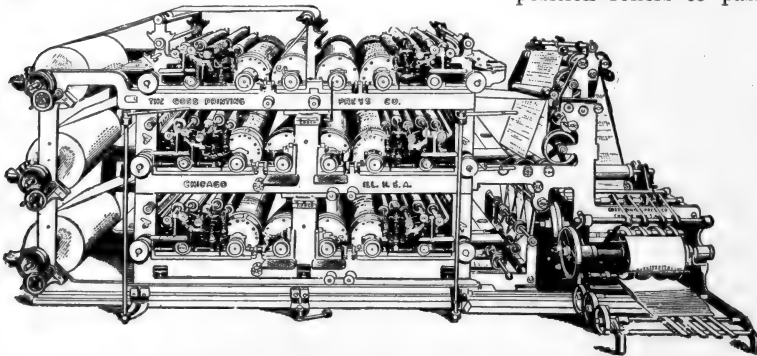


SCOTT'S FOUR-ROLL STRAIGHT-RUN PERFECTING PRINTING MACHINE.

graduations being in quarter inches. In 1899 Scott & Co. brought out a new two-revolution press with a flyless delivery, and a new bed motion permitting of high speed with accurate register. This machine has been very successful, but has been almost eclipsed by Mr. Scott's latest invention, in which he has combined the good points of the stop-cylinder and the two-revolution machine. This press, as arranged for lithographic work, is illustrated herewith. The bed motion is new to this side of the Atlantic, being an improvement on the German type of "sun and planet" driving gear. The cylinder is made two-revolution, so as to secure small diameter, and is geared to the bed throughout the printing stroke. It comes to a full stop at the point of taking the sheet, thus insuring absolute register, without that loss of speed which has been the drawback to the stop-cylinder class of presses.

The Campbell Printing-Press Company became famous through the inventions of Andrew Campbell. He was the first to build a simple cylinder press for country newspapers, one that could be run without skilled labor, and would do good work, and thousands of them are in use to-day. He built a whole line of cylinder printing-machines for all classes of work, his crowning effort being the production of a web perfecting press in 1875. This machine printed, inset, pasted, and folded any number of pages up to 24. It had

automatic dampening apparatus, positive rotary movements, no tapes, a space for a type column besides the stereotype plate, for the addition of late news, and numerous other devices in use in present-day machines. Campbell built three of these presses, and then sold his patents to Hoe & Co., who thereafter for several years controlled this class of machines. Within recent years the machinery for the Campbell Company has been designed by Henry A. Wise Wood, general manager of the company, who has produced the Century, New Model, and Multipress machines. The Century press is a two-revolution cylinder machine, for high-class work at high speeds. The speed was secured largely through a new bed movement, which imparted an even movement to the cylinder during the printing stroke. The methods of supporting the bed and bracing the cylinder also gave increased rigidity, while the gearing together of the bed and cylinder compelled accurate register. Minor devices insured accuracy in the taking of the sheet from the feed-table. The press has been widely introduced for three-color printing and other work difficult of registration, or requiring superior ink distribution. The Multipress is a flat-bed perfecting machine, printing from type. It is based on the original Stonemetz patent, and is especially adapted for the use of newspapers that wish a perfecting press that avoids the use of a stereotype plant. The type-beds are stationary, on different levels, and the cylinders reciprocate over them. The machine does four times the work of an ordinary cylinder press, and dispenses with the hand feeder. The New Model is a web stereotype perfecting press of very simple construction, for general newspaper use.



GOSS THREE-DECK STRAIGHT-LINE PERFECTING PRESS.

The Cottrell cylinder presses were brought out by C. B. Cottrell, of Westerly, R. I., who built a variety of forms, consisting mainly of stop-cylinders, drum-cylinders, and two-revolutions. He was among the first to appreciate the value of delivering the sheet printed side up. He did much to perfect the air-spring, which has now been adopted by nearly all manufacturers for reversing the type-beds without severe jar. The firm is now C. B. Cottrell & Sons Company, and within recent years it has made great progress in the development of machines suited to the manufacture of magazines and periodicals of large circulation. Its flat-bed perfecting press with shifting tympan has been a great boon to the dime magazines, which required faster work than the single-cylinder could produce, and better printing than could be had from the ordinary web perfecting machine. The trouble in doing fine work on a perfecting press has been that, in printing the second side of the sheet immediately after the

first side, there was not time for the ink to dry, and it offset against the tympan or printing surface of the press and smutted succeeding sheets. On the Cottrell perfecter the tympan is entirely changed or shifted every one, two, three, or five minutes, as desired, the shift being set so that there is always a clean tympan back of the paper, to absorb any surplus of ink before it can offset. The sheets are fed into this machine, as into an ordinary cylinder press, by hand or with automatic feeding-machine, and are printed on one side from the first cylinder, then transferred to a second cylinder, which prints the second side, and then delivered perfect on a table. This not only saves a second feeding and printing, but the labor of spreading, drying, jogging, etc., between printings. The whole success of the machine hangs on the admirable self-shifting tympan, which can be changed in a second's time while the press is running at high speed. The floor space occupied is only one foot greater in length than for a single-cylinder machine.

The Goss Printing-Press Company, of Chicago, has developed a line of web perfecting machines for daily newspapers, based principally on the patents of Joseph L. Firm, of Jersey City. They are largely in use. One of its most ingenious devices is an offsetting arrangement which absorbs all the extra ink from the newly printed page, and transfers it to a cylinder, whence it is wiped off by a cloth-wound roller. The inventor, acting upon the fact that a composition roller of glue and molasses has a suction power upon the surfaces upon which it moves, conceived the idea of making such a roller act as a blotter on the newly printed pages. He arranged a pair of composition rollers to pass over the sheet on its transit to the second form, and remove the surplus ink. Before the roller had in its revolution touched the printed paper again, it had passed against a polished steel cylinder, on which it left its ink; in other words, the roller took up the ink and transferred it in its revolution to a receiving-cylinder, which in its turn was kept clean by a cylindrical cotton wiper. The apparatus occupies an exceedingly small space, and is comparatively inexpensive. This combination obviates the necessity for the use of endless aprons or blankets, slip or blank sheets, rolls in the web, or cylinders or rollers of any kind for the printed sheet to travel over.

The Goss press is the regular three-deck straight-line press, with three-color mechanism added on the top deck, so that the machine will print a newspaper in black, but with four colors on the two outer pages.

The Huber cylinder presses are distinguished by the use of a simple crank movement of the bed, which affords very smooth running, without cams or cam-gears. The Huber Press Company builds a variety of styles for general commercial printing, including a double-inking book-press. They also make a sheet-perfecting press, commonly abbreviated to "perfecter," this being a machine with 2 cylinders, one for printing on each side of a sheet, so that it delivers the sheet printed on both sides, or "perfected." The offsetting de-

vice consists of 2 wiping rollers covered with plush having a long silk nap, traveling in opposite directions at twice the surface speed of the cylinder. These rollers are kept thoroughly lubricated, and are automatically brought into contact with the tympan of the second impression-cylinder, twice before each impression, rendering it free from contaminating matter. This machine is adapted to a high grade of work. Another Huber press has two cylinders, each for printing a different color. The method of carrying the sheet from one color-cylinder to the other insures absolute register, and the speed is 10,000 sheets a day, or about the same as a one-color machine. It is in demand for labels, fancy posters, and similar work.

The Whitlock cylinder printing-presses were originally based upon what was known as the Henry bed movement, but as the two-revolution class of machines was improved, they were built with a crank movement, modified by elliptical gears, thus securing an ideal motion. The flyless delivery and modern minor devices have placed these machines in the front rank.

The Babcock Printing-Press Company have built cylinder presses for many years at New London, Conn. Their most important machine at this time is the Optimus, a two-revolution cylinder, which contains many improvements that are radical departures from old ideas. The innovations are chiefly the inventions of George P. Fenner, of New London, Conn. The sheet is delivered printed side up and stops on its journey after it leaves the cylinder, and is exposed to the view of the feeder, while the next sheet is being printed and taken up, so that it can be fully inspected both as to ink and register. The press is especially convenient for making ready. It has a still gripper, whose motion exactly coincides with that of the cylinder at all speeds—a most important matter in its relation to the register—and uniformity of margin. It has an improved air-cushion, an adjustable piston, a special reversing mechanism, and an impression trip, which can be operated instantly and effectually. There is also a cylinder-lifting mechanism, which dispenses with the heavy counterbalancing used in some other presses.

The Cox Duplex newspaper press is made in Battle Creek, Mich., and was developed for the purpose of providing a moderately fast web machine to print from type, as desired by many daily newspapers with 3,000 to 10,000 circulation. The type-beds are placed one above the other, and are stationary, while the cylinders roll back and forth upon them, and the web of paper, which winds in and out between the cylinders, type, and rollers, is drawn forward the width of one newspaper at each reversal of the cylinders. As two impressions are made during the travel of the cylinders in each direction, the result is a quadrupling of the work that can be done on a single cylinder press, and hand-feeding is dispensed with.

The Kidder Company, of Boston, have built many styles of web feeding-machines for special work, and there are other press-builders in the United States who have built good machines more or less similar to those that have been described above, which have been selected as typical of certain classes. One special design of press that forms a class by itself is the Harris Automatic Press, of Niles, Ohio. This is a rotary job-press, designed for doing the work of the small platen-machines at a much greater speed. It has tiny cylinders and is mounted on a pedestal. For envelopes and cards there is an automatic feed, so that these can be printed at six

or eight times the speed possible with hand-feeding on a platen-jobber. Many sheets require to be hand-fed on the Harris press, but can be put through at three times the speed of the ordinary job-press. The printing surface is not a fixed electrotype plate, but the method is such that type can be adapted to direct use to some extent.

Automatic Paper-Feeding Machines. Until about 1875 no other way of feeding the paper into printing-machines had been devised than by the tedious method of placing the sheets in position one at a time by hand; but the introduction of rotary presses supplying the paper from a roll turned the attention of inventors to the problem of feeding single sheets automatically. One of the first successful machines of this class was the Economic paper-feeder sold by E. C. Fuller & Co., of New York. This was introduced to feed book-binders' ruling-machines, and was generally adopted for that purpose. As ruling-machines commonly use only papers of good quality, and not very large sheets, the problem was not so serious as was the feeding of sheets to cylinder presses that take on all qualities and sizes of sheets. After an expenditure of a very large amount of money, however, the machines were perfected so that they could be applied to cylinder presses with economy, and these feeders are in use in many large book-printing houses and in magazine-publishing plants, as well as private offices.

The Dexter Folder Company, of Pearl River, N. Y., also went into the manufacture of feeding-machines, and T. C. Dexter took out a large number of patents, which cover the improvements embodied in their machines. The Dexter feeders use purely mechanical devices, avoiding electrical attachments. One of the great difficulties in securing exact operation from this class of machines has been the tendency of the sheets to stick together. In the Dexter feeder, if more than one sheet is advanced from the pile, a mechanical sheet-caliper attachment discovers the fact, and sets in play mechanism for stopping the printing-machine so that the attendant can remedy the difficulty before any damage results. The squaring of the sheet as it approaches the guides of the printing-press is accomplished automatically, even if the sheet is not placed squarely in the pile from which the paper is being fed.

Several other automatic paper-feeding machines are before the public, or in a condition to be placed on the market shortly.

In the bookbinding branch of the printing industry a variety of machinery has been introduced, the most recent and important of which is Sheridan's case-making machine, which makes what are technically called book-cases—that is, covers for books—automatically at the rate of 22 a minute. The boards for the sides and the cloth are supplied automatically, and the machine puts all together with greater precision than it can be done by hand, besides saving cloth and glue. The case-maker is such a labor-saver that within a very short time it has found its way into all the larger cities of the world.

Aluminographic Printing.—In 1898 it was demonstrated that lithographic printing could be done commercially on rotary presses by the use of aluminum plates instead of the lithographic stone. About 1880 a great deal of money was expended by press-manufacturers in the effort to introduce such machines for printing from zinc plates, but zinc proved a failure. When aluminum was produced cheaply it was thought of as perhaps a proper metal, and after experiments by various persons, who claim the credit for the dis-

covery, it was made adaptable to lithographic work, the method being termed aluminography, or alumography, or sometimes algraphy. In order to get the needed porosity, the method is to take a sheet of very pure rolled aluminum, and grind off the surface that has been hardened by the rolling, thus getting at the porous interior, which is very similar in its properties to the lithographic stone. Another method is to form an aluminum surface by electrodeposition. The aluminum plate has the advantage over the stone of lightness, of requiring very much less space for storage, and of being available for longer runs without reproducing the design. The lithographic stone is so cumbersome that the storing is an item of importance, as a large lithographic house has to handle a vast number of stones. The aluminum plates occupy only one-fiftieth the space and are one-one-hundredth the weight of the stone. The cost of the metal is but 38 cents a pound, and a pound gives a very large surface. Bulk for bulk, it is cheaper than brass. The sheets used are only about a thirty-second of an inch in thickness, and they can be drawn upon, transferred to, and manipulated generally as is the stone. The plates are etched by phosphoric acid to prevent the ink from spreading beyond the limits of the design, and may be cleaned off after using by a preparation of nitric acid. The fact that aluminum is almost non-corrodable is one of the largest elements in the success that has attended the use of the metal in lithography. The flexibility of the plate adapts it naturally to rotary printing, and the Hoes, Huber, Scott, Aluminum Press and Plate Company, and others have built special printing-machines to accommodate them. The Scott flat-bed lithographic machine handles either the stone or the aluminum plate; the others are for aluminum plates only. These machines are replacing former lithographic presses with considerable rapidity, though the majority of lithographic work is still done from stone.

The trade is indebted largely for the adaptation of aluminum in this way to Joseph Scholz, of Mayence, and the Strecker-Scholz process of preparing the plates is much used in the United States, though the Huber Press Company has a special method, and the Aluminum Press and Plate Company also has a method based on the Mullaly patents.

Printing from Zinc.—The use of zinc for lithographic printing gave us the word zincography, but that process was generally considered a complete failure. However, the American Lithographic Company did not give up experimenting with this metal, and in 1899 several gentlemen connected with that concern took out a series of patents on a zinc plate obtained by electrodepositing the zinc on another metal surface, as copper. One of the reasons why aluminum proved a good material is that it is obtained by electrodeposition in the manufacture. Zinc deposited in the same way constitutes a good material for lithographic work, though it is more corrodable than aluminum. The new method of handling the zinc provides for depositing it on tubes that are slipped on and off the cylinders of the printing-press. The process is being used with considerable success.

Patent Blankets.—The earlier forms of printing-machines all employed a soft surface or packing between the hard material of the press proper and the tympan, on which to make the impression of the type. Without such a soft surface the weak machines used prior to 1830 would not have been able to produce enough pressure of the paper against the type to print prop-

erly. As stronger and heavier presses were manufactured, there was a tendency to use harder printing surfaces, and what is known as hard packing was generally substituted for the rubber or felt blankets that were absolutely necessary to early printing. The process of change was gradual. At first a few thicknesses of paper were placed over the rubber, then hard cardboard, then the rubber was discarded, and finally the trade came to using the hardest cardboard it could get, and putting very little of that between the iron and the type, in the endeavor to secure an unyielding surface. Because of these changes pictorial printing reached a higher plane of development, and the overlaying of illustrations became a fine art, the lights and shades of the woodcuts or photoengraved plates being brought out by very delicately cut and pasted thicknesses of tissue-paper.

Within a few years a tendency to return to softer surfaces for printing has been manifested, as illustrated printed matter has increased so fast that the expense of overlaying the forms for printing constituted a serious item of expense. In the endeavor to get rid of this costly labor different styles of wire spring blankets have been introduced, and also corrugated rubber blankets, to be used on the surface of printing cylinders and on platens, surmounted by a sheet of thin celluloid or very hard cardboard. Severy, Allen, and Rhodes have each taken out patents in this field, and introduced springy blankets that are adapted to certain classes of work. The yielding of the springs or rubber takes up a part of the irregularities of the plates or cuts in the form, and reduces the necessity for "make-ready."

The opponents of this new spring-blanket theory assert that there is a loss in effect in the heavy shadows of fine illustrations, and that if the quality is reduced at the same time as the cost, one might as well go back to the old-fashioned rubber blanket, which, when covered with hard cardboard, produced pretty good printing with little "make-ready."

Mechanical Overlays.—Other innovations looking to the saving of labor in overlaying consist in mechanically produced overlays. The Dittman, De Vinne-Bierstadt, and Humphrey & Upham processes have each attracted much attention within a year or two. Dittman takes a print on paper with full inking, dusts it with common flour, lets the flour that adheres swell with the moisture of the printing-ink, and then bakes the sheet to toughen it. The swelling exaggerates the dark parts of the print, and, when the sheet is pasted on the printing surface, serves to bring up the darker portions of an illustration to advantage. The De Vinne-Bierstadt method is based on the swelled gelatin process of the photoengraver. A print is taken on a thin sheet of transparent celluloid and dusted with plumbago to thicken the lines. This is then exposed in a photographer's printing-frame over a film of gelatin, which is afterward swelled in the parts not made insoluble by the light. From the gelatin a plaster-of-Paris mold is made, and from this a flexible reverse in gutta-percha. The gutta-percha is backed with paper and becomes the overlay, being thickest in the dark parts of the illustration. The Humphrey & Upham method is adapted only to duplicating overlays. The original overlay is cut by hand in reverse, and from this a gutta-percha impression is taken that becomes the overlay. All these overlays are in use, but no one of them is at this date used extensively.

Illustrating and Engraving.—Wood-engraving was the common method of producing illus-

trations for printing up to 1875, when photoengraving began to supersede it. The woodcuts of the latter half of the nineteenth century were often made with great artistic skill, although the highest class of engraving before 1875 was generally done on steel at great cost. The modern photomechanical processes of engraving produce results that are both better and cheaper than the hand-work on wood and steel, and have not only replaced them, but have caused probably hundreds of times as many illustrations to be produced now as were made fifty years ago. The great mass of illustrations used to-day are made by the half-tone process, or by zinc etching. In zinc etching the drawing is transferred by photography to a zinc plate, which is powdered and then etched with acid, to secure the relief necessary for printing. In producing half-tone work, an India-ink-brush sketch, called a "wash-drawing," is photographed, or a photograph is taken direct from nature, on a gelatin film containing a bichromate. Since gelatin is made insoluble and becomes hardened by the action of light, the portions of the film that are kept dark in the printing-frame may be swelled by water, while the remainder is unswelled. Thus a surface may be produced that is irregular in height according to its lights and shadows. In commercial use the process is to expose a negative to the picture to be copied through an interposed, finely ruled glass screen, and then develop the negative. A prepared metal plate is exposed so that the light passes through the negative, after which the exposed metal plate is etched and becomes a printing-plate made up of a series of minute dots that vary in strength according to the lights and shades, giving an artistic picture in a form best calculated for reproduction on a printing-press. Though made mechanically, the half-tone requires much judgment in handling to secure the best results, and it is much improved by hand-work in cutting out the high lights of an engraving by rendering the vignetting more delicate, etc.

The half-tone has reached its highest perfection in what is known as the three-color process of illustration. This consists in taking three photographs of a subject, and making from each a half-tone printing-plate. One photograph is taken as far as possible in yellow light, another in blue light, and the third in red light. The plates so obtained are printed one at a time, each in its appropriate color, and superposed, the resultant picture possessing theoretically all the colors of nature. Though there are many mechanical difficulties in the way of carrying out this method of color printing, and though its results are not quite true to nature, yet the process is a pronounced success, and is coming into larger use every day. The best results have been obtained by manufacturing a fourth plate to be printed in photo-brown, and that serves to outline and emphasize the picture where it can be helped in this manner.

Stereotyping and Electrotyping.—Stereotyping is the reproduction of type-forms or engravings, etc., in a metal alloy that is principally composed of lead. The art originated some time during the eighteenth century, but was not commonly practised until 1812. For many years it was the best commercial method of duplicating forms for printing, but within recent years it has been superseded to a great degree in the book, magazine, and job-printing field by electrotyping, which secures better results at a slightly increased cost. In newspaper work stereotyping has come into greatly increased use since the introduction of rotary presses. These use curved stereotype

plates made by the paper process, which can be produced very rapidly. In newspapers of great circulation, in order to get an edition printed as promptly as possible, the type pages are duplicated by stereotyping three or four or even eight or ten times, and placing the plates on as many fast presses. In this way it is possible, in several of the larger newspaper plants, to deliver 500,000 to 1,000,000 completed newspapers within an hour after the last line of the last page is in type.

Electrotyping is a process of reproducing type or other incised printing surface by taking an impression in wax, and placing this wax mold, covered with black lead, in a solution of copper, and depositing thereon by electrodeposition a film or shell of copper that is a duplicate of the original form. This thin shell is backed with an alloy that is mostly lead, and may then be mounted for printing. The process is generally used for reproducing pages of books, magazines, etc., of which further editions may be required, and for which the type could not be kept standing; also for the duplication of half-tones and other plates used for illustrations. It has been brought to a high degree of perfection, the greatest improvement in recent years being the stimulation of the electrodeposition by the use of a dynamo. By means of this, plates can be made in an hour, a great advantage in the case of publications desiring to include late news.

Books and Periodicals Devoted to Printing.—The literature of printing includes several thousand volumes, the finest collection in America being that of the Typothetæ Library in New York. In England the best collection of rare works bearing on typography is said to be the John Rylands Library, in Manchester. As a rule, the books pertaining to the printer's craft have been issued more for love of the art than for profit, and only a few have had extensive circulation. Probably the three most successful books issued to the trade in America during the past generation were De Vinne's *Price List*, MacKellar's *American Printer*, and Harpel's *Typograph*. In the year 1900 Paul Nathan issued a book from the Lotus Press, entitled *How to Make Money in the Printing Business*. This deals entirely with the business side of printing, and contains much common-sense advice as to the methods to be pursued to insure success. Among other recent books are Theo. L. De Vinne's *Printing Types*, and *Correct Composition*, F. Horace Teall's *Proof-Reading*, C. S. Partridge's *Electrotyping*, Ernest Knauff's *Drawing for Printers*, and Edward S. Ralph's *Job Composition*. The Inland Printer has also issued several *brochures* by Charles H. Cochrane.

In England the second and third sections of John Southward's *Modern Printing* appeared recently, and also a catalogue of the William Blades collection, being a bibliography of what William Blades, a once famous English printer, considered the best books on the history of printing; also a *brochure* on *Printing Machinery* by William Powrie.

The first periodical published solely in the interest of the printer's art, so far as the writer can learn, was the German publication *Journal für Buchdruckerkunst*, by Dr. Johann H. Meyer, begun in 1834, and continued a great many years. New York had a similar publication as early as 1858—*The Printer*, published by John Greason. Since that date perhaps fifty papers have existed for various periods and catered to the trade in the United States. The most important of these dead and gone periodicals was Rowell's *American Newspaper Reporter*, which began in 1867, and

was issued weekly for about twenty years. Among the papers now devoted to the interests of the trade are the following: The *Inland Printer*, published in Chicago, is a monthly as thick as any of the popular magazines, and having much larger pages. It is gotten up in a style creditable to the art it represents. The reading-matter is largely technical, being divided into departments devoted to presswork, machine composition, job-composition, the employing printer, the artisan, the proofroom, newspaper gossip, patents, process engraving, etc. The *American Printer*, a monthly, is published in New York city by the Oswald Publishing Company. It excels as a specimen of high-class typography and presswork, and is beautifully illustrated. The pages are 9 × 12 inches, and the letterpress serves to illustrate the perfection of linotype composition. Much space is devoted to the interests of the proprietors of printing-offices and exchange of views. The *National Printer-Journalist* of Chicago is the organ of the National Editorial Association, and caters principally to the newspaper publishers, though it has departments relating strictly to the technical side of printing. It gives very complete reports of the meetings of the editorial associations, and of similar gatherings in the trade.

The newspaper side of printing-trade papers is represented in New York city by 4 weeklies—the *Journalist*, *Newspaper Maker*, *Newspaperdom*, and the *Fourth Estate*. The *Typographical Journal* is the official organ of the International Typographical Union, and gives the news and gossip pertaining to the progress of the art from the union workman's view-point. There are perhaps a dozen other minor trade publications identified with the printing industry in the United States.

The best known English printing-trade papers are the *British Printer* and the *British and Colonial Printer and Stationer*. Those in Germany are *Allgemeiner Anzeiger für Druckereien* and *Zeitschrift für Deutschland's Buchdrucker*.

Printing-Trade Organizations.—There are organizations of both employees and employers in the printing trade in most civilized countries. In the United States the workmen's organizations are known as unions, and the proprietors as typothetæ (type-placers, which is the best rendering that can be had in Greek for typesetters). The unions grew out of fraternal benefit orders, that brought the men into closer acquaintance, causing them gradually to formulate and carry out combinations for increasing their wages. The Typothetæ was brought into being largely because the demands of the unions necessitated organized opposition by proprietors in order to retain control of their printing-plants. The Typographical Union was organized about fifty years ago, principally by newspaper compositors, and gradually developed into a very powerful combination. The pressmen's union was instituted a few years later, and one after another unions were formed in the different branches of the trade. Of these the International Typographical Union is the largest and most influential, comprising about 40,000 members, and disbursing a large amount annually in benefits to sick members, and also maintaining a home for incapacitated printers.

Within a few years the following-named unions in the trade have organized together as the Allied Printing Trades Council of New York and Vicinity: Typographical Union No. 6, German-American Typographia No. 7, Hebrew-American Typographical Union No. 83, Local No. 1 International Brotherhood of Bookbinders, Bohemian Typographical Union No. 131, Mailers' Union No. 6, the Adams, Cylinder, and Web Press Printers'

Association No. 51, Stereotypers' Union No. 1, Photoengravers' Union No. 1, Type-Founders' Union No. 1, Eccentric Association of Engineers and Firemen, and the Feeders', Helpers', and Job-Pressmen's Union No. 23. The principal object of this combination of unions is the promotion of the sympathetic strike as a means of bringing employers to terms. Any union in the Allied Trades Council which is striking for wages, or any legitimate purpose, has the right and power to call out any or all the other unions in the council to assist in enforcing the demands. The combination has thus become very powerful, and would be more so were it not that almost half the workmen in the country, especially in the smaller towns, are non-union, and afford support to employers in time of strike. In 1886 the International Printers' Protective Fraternity was organized in Wisconsin—a sort of opposition union to the Typographical Union, its members being opposed to strikes, and settling all difficulties by arbitration. It has local branches in large cities, its principal strength being in the Western States.

The Typothetæ grew out of a meeting of master printers held in New York city in 1863. It existed in an informal way for twenty years, at times being practically lifeless; but in 1883 it reorganized permanently, and in 1892 became an incorporated body and acquired property. Similar organizations sprang up in other cities, and in 1887 there were fourteen, mostly known as Typothetæ, though some of them assumed the title of master printers' associations. In 1887 a demand by the unions for a reduction of hours caused a call to be issued for a convention of all these organizations and master printers generally in Chicago, to decide on some concerted action in opposition. As a result, the United Typothetæ of America was formed, which at this date includes 39 subordinate organizations, the total membership being about 1,000 firms.

The United Typothetæ of America holds yearly conventions at different cities. Important trade questions are discussed, and committees are appointed to carry out desired objects. While the typothetæ organizations were originated in opposition to the unions of working men, they are not as they exist at present distinctly antagonistic. The avowed objects of the typothetæ are rather the securing of every good for the printing trade, the settlement of differences by arbitration, the maintenance of prices, etc. The members are mostly the larger firms in the book- and job-printing industry, but many newspapers are represented, as well as a considerable number of firms in the trades allied to printing.

About 1885 the New York Typothetæ set the fashion of celebrating the anniversary of Benjamin Franklin's birth, Jan. 17, by a banquet. These banquets have become an annual social feature in the trade, and are held in most of the cities where there are typothetæ. In some cases the employees dine with the employers at such gatherings, which are utilized to promote good feeling in the trade.

PROTESTANT EPISCOPAL CHURCH IN THE UNITED STATES. A summary of the statistics of Church progress in the year shows the following: The number of dioceses within the United States is 60; missionary jurisdictions within the United States and their possessions, 21; missionary jurisdictions in foreign lands, 9; clergy, 5,022; parishes and missions, 6,614; bishops consecrated, 1; priests ordained, 161; deacons, 147; candidates for holy orders, 471; postulants, 250; lay readers, 2,069; baptisms, 59,566; confirmations, 45,093; communicants, 743,622; Sun-

day-school teachers, 46,940; Sunday-school pupils, 439,112; parochial and industrial school teachers, 1,764; parochial and industrial school pupils, 24,802; contributions, \$14,544,917.

The General Convention met in San Francisco in October. Action was taken by which six new missionary jurisdictions were formed: Salina, Porto Rico and Vieques, Honolulu, and the Philippine Islands within the territory of the United States, and Cuba and Hankow in foreign countries. The diocese of Massachusetts was divided, and a new diocese was formed under the (provisional) name of Western Massachusetts. The following missionary bishops were elected: Olympia, the Rev. Frederick William Keator; North Dakota, the Rev. Cameron Mann, D.D.; Philippine Islands, the Rev. Charles Henry Brent; Porto Rico and Vieques, the Rev. William Cabell Brown, D.D.; Hankow, the Rev. James Addison Ingle. The appointment of missionary bishops for the jurisdictions of Honolulu, Salina, and Cuba was left with the House of Bishops, who will make appointments in the recess.

The General Convention deferred to future action the erection of provinces, the term of the presiding bishop, and the alteration in the legal name of the Church. The convention passed what may be called permissive resolutions: one to allow the use in public of the marginal readings; the other, as to the power of bishops to take under their care congregations not belonging to the Church without insisting on the use of the Prayer-Book. Several new committees were created, notably those on the translation of bishops, on the relation of capital and labor, and on conferring with the other religious bodies in regard to marriage and divorce. The erection of the sees of Honolulu and Porto Rico and Vieques are noteworthy, as they were formed through the friendly cooperation of the Bishops of Honolulu and Antigua, who resigned their former jurisdiction over these islands.

Missions.—The entire receipts of the Domestic and Foreign Missionary Society for the fiscal year ended Aug. 31 were \$998,904.47. The total amount at the discretion of the board for the work for which it made itself responsible was \$531,137.50, of which \$456,864.32 came from contributions, \$69,693.18 from legacies designated by the testators for either domestic or foreign missions or for the use of the society, and \$4,580 from legacies unused, received the previous year. As the appropriations for the year amounted to \$610,983.15, this made a deficit in meeting the appropriations, which deficiency of \$102,719.36 (including \$22,873.71 to Sept. 1, last year) was temporarily covered by the reserve deposit, amounting to \$109,120.81, set aside several years ago to meet the payments during the early months of the year when the contributions are few, and the board, at the end of the fiscal year, had left only \$6,401.45 of the reserve deposits with which to protect its obligations falling due within the next six months. The increase of contributions, compared with those of the previous year, was \$17,039.99, but there was a decrease in the amount received from legacies of \$112,454.41. The number of parishes and missions contributing—112 more than the year before, and more than in any previous year—was 4,075, and the Lenten offering from Sunday-schools, amounting to more than \$104,000, was the largest yet made. The number of schools contributing was 3,467, a gain of 129, compared with the previous year. The total of appropriations for the fiscal year 1901-1902 was announced in May to the Church as \$610,000, subject to slight increase to meet special

opportunities or emergencies during the year, but the action of the board in making its appropriations was qualified by a resolution which provided that if, at the close of the year ending Sept. 1, 1901, there should be a deficit of not less than \$100,000, a reduction at the board's discretion on all appropriations for the coming year could be made, and a proportionate reduction for any smaller deficit, this reduction to apply proportionately only for the nine months beginning Jan. 1, 1901. By subsequent action it was determined not to put this resolution into effect before March 1, 1902.

The amount available for domestic mission specials (including a balance from 1900 of \$97,387.34) was \$662,947.62. The payments on account of white mission work were \$165,074.47; of Indian, \$62,899.86; of colored, \$73,365.50; specials were \$109,442.47; portion of Woman's Auxiliary united offering of 1898 applied to appropriations for domestic missions, \$15,027.23; legacy expenses (half), \$701.60; half amount paid to annuitants, \$926; half cost of administration and collection, \$22,309.91; half cost of printing reports of the board, Spirit of Missions for the clergy, pamphlets and leaflets for gratuitous distribution, \$11,071.66; legacies for investment, \$114,528.63; legacies paid to certain bishops, etc., at their discretion, \$2,300; making the total of payments on account of domestic missions and specials, \$577,647.33, and leaving available for domestic missions and specials at the close of the fiscal year a balance of \$85,300.29. The salaries of the bishops and the stipends of the missionaries in the 17 districts that are exclusively missionary were paid, and assistance was given in 40 dioceses. The general missionary to the Swedes, 2 missionaries among deaf-mutes in the West and South, 3 missionaries in Porto Rico, and 2 in the Philippines also were supported, the society being responsible, in all, for the salaries of 16 missionary bishops and the stipends of 694 clergymen, 147 laymen, and 212 women.

The total amount for the fiscal year applied upon the mission work in foreign lands was \$320,023.57, but \$81,180.77 of this was received as specials to be paid over and above appropriation or to be invested permanently. The statement of appropriations and resources for the year is as follows: Balance of appropriations on Sept. 1, 1900, unpaid, \$42,930.39; appropriations to Sept. 1, 1901, \$278,765.63. Assets to Sept. 1, 1900, \$31,493.54; received for foreign missions, \$115,751.40; one-half general offerings, \$94,798.85; designated legacies, \$15,993.32; undesignated legacies, \$12,299.23.

The reports of the missionary bishops give abundant ground for hope and confidence.

Church work among the Indians is maintained in 13 States and Territories. There are working in this field 49 clergymen, 86 laymen, and 129 women, making a total of 168 workers. Of these, 28 are Indian clergymen. In Alaska 4 new churches were built this year, and the contributions amounted to \$6,394; 64 persons were baptized and 64 confirmed. For mission work among the Indians \$62,899.66 was paid out by the board.

Advancement in the mission work among the deaf-mutes in the West and South, among the Swedes, and among the colored people of the South is reported. For the work of evangelization and education among the latter \$73,365.50 was expended this year.

The work of the Church in Porto Rico is established at three centers—San Juan, Ponce, and Vieques. At San Juan the Rev. James H. Van Buren, appointed as missionary to Porto Rico,

has bought for \$12,000 a lot on which to erect a church, and the people of San Juan have raised \$2,000 for that purpose. The attendance upon Sunday services has averaged 65 persons, and there are about 35 communicants, one-fifth of whom are colored. At Ponce are about 70 communicants, 50 of whom are colored, and there are 40 colored children in the Sunday-school. At Vieques are about 70 communicants. Bishop Peterkin early in the year confirmed 19 persons in Porto Rico.

Two missionary priests for the work in the Philippines were appointed in May. A chapel lot in Manila has been bought and paid for, and a pledge of \$20,000 for the erection of buildings has been made. The Order for Holy Matrimony has been translated into the Tagal tongue—the first office of the Prayer-Book to be so translated. This work is important, as, since the establishment of civil marriage, very large numbers of the people seek the American chaplains and missionaries for the ceremony. The statistics of the Philippines mission for the year show 7 confirmations and 81 communicants. The Bishop of Shanghai, as bishop-in-charge of the Philippine Islands, made a visitation there.

The Church in Liberia has continued to maintain its quota of good works, although, on account of the rebellious attitude of two heathen tribes toward the Government, the work of some of the interior stations had to be suspended. In the year 2 deacons were ordained, 4 postulants, and 8 candidates for holy orders were admitted, 16 lay readers were licensed, 9 additional catechists and teachers were commissioned, 3 churches were consecrated, 314 persons were baptized, and 136 confirmed; there were 1,710 communicants, of whom 1,012 are aborigines, the Sunday-school pupils numbered 1,832, the day-school and boarding-school pupils were 1,262, and the contributions amounted to \$2,794.17.

In China the outlook is encouraging. Since the political troubles of 1900 the work of evangelization has been resumed on stronger lines than before. In Wuchang street-preaching services have been established with remarkable success, a chapel has been completed, another begun, and two new stations where regular services are held, and also a training-school for day-school teachers, have been opened. A new feature of the year was the holding of a teachers' institute. A new house at Wuhu has been opened, and new stations at Wusieh, Lang-Lo, and Chang-Chow. A hospital at Nganking has been completed; work for women has been begun at Hankow, where extensive building operations have gone on during the year, and a church there has been consecrated. In March 155 boys and young men applied for admission to St. John's College, five miles out of Shanghai; but there was accommodation for only 50. Many of the applicants were sons of distinguished officials in China. The number of students enrolled is more than 220. Other statistics show that 194 persons were baptized, 147 confirmed, the communicants number 1,204, contributions amounted to (Mexican) \$2,500.06, and 1 priest and 4 Chinese deacons were ordained. The translation of the Bible has been continued, various tracts have been written, the first half of a commentary on the Psalms has been printed, and an elaborate work on ancient history, prepared at the request of the Viceroy of Hupeh, has issued from the press. All these are in the Chinese tongue.

The Church in Japan is winning its way to the confidence of the people. Statistics for the Japan mission give: Natives baptized, 323, of whom 204

were adults; confirmed, 207; communicants, 1,697; day-school pupils, 1,505; boarding-school pupils, 223; Sunday-school pupils, 1,786; contributions, \$6,087.54 (Mexican dollars). One priest was ordained, 5 native candidates for holy orders were admitted, 2 churches were consecrated, a night-school and 2 hospital dispensaries were opened, and land was bought and buildings put up. As one result of a meeting of the bishops of the Church in Japan, the bishops issued a joint pastoral letter to all their communicants, urging them to daily prayer for Christian unity. Since then the representatives of all the missions in Japan, except the Roman Catholic, have published a letter to the same effect. In the past year the Middle School of St. John's College achieved the unique distinction of having its graduating class admitted into the Government institutions at the head of all competitors, passing 100 per cent. of its candidates.

The Church in Haiti is now established at 22 points, in charge of 12 native priests. The baptisms in the year numbered 110; confirmations, 55; communicants, 544; Sunday-school pupils, 288; day-school pupils, 234; contributions, \$2,233. Three new mission stations were opened.

The Mexican Church is slowly strengthening in numbers and influence. It closed the year entirely freed from debt; the number of its clergy has been increased by 5, 1 deacon has been ordained, the baptisms were 79 and the confirmations 108; the offerings amounted to \$1,454, and the number of communicants was 763. A committee of the House of Bishops was appointed at the convention with power (under certain conditions) to arrange a concordat or covenant with the Mexican Church, and, when satisfied with the concordat, and subject to such conditions, to consecrate not more than 2 bishops for the church in Mexico. A standing committee of the board has been appointed on Mexican work.

The statistics of the chaplaincies in Europe show: Clergy, 12; organized chaplaincies, 9; baptisms, 64; confirmations, 123; communicants, 1,777; and contributions, \$98,621.

The receipts of the American Church Missionary Society amounted to \$64,458.32; the cash on hand Sept. 1, 1900, was \$10,282.65; the disbursements were \$66,581.35; and the cash balance Sept. 1, 1901, was \$8,159.62. The disbursements for Brazil for missions were \$19,704.74; for specials, \$977.30; for church building, \$14,220.72; for insurance, \$350. The Brazil mission shows constant growth and reports 1 priest ordained, 3 candidates for holy orders, 2 postulants, 1 church consecrated, 158 baptisms, 97 confirmations, 488 communicants, 34 Sunday-school teachers, 465 Sunday-school pupils, 3 parish-school teachers, 50 parish-school pupils, and \$3,666 contributed. By a change of title authorized by the General Convention, Bishop Kinsolving takes the title of Bishop of Southern Brazil.

For Cuba the disbursements were: For missions, \$8,568.66; for specials, \$116.50; for church at Bolondron, \$1,797.52; for Matanzas orphanage, \$5,231.98. The mission in Cuba has been placed in the charge of the Bishop of Porto Rico and Vieques. Five clergymen are laboring there in 5 mission districts, who in the year baptized 36 persons. There are 256 communicants and 250 Sunday-school pupils. Reports from the orphanage at Matanzas indicate that unless contributions for its maintenance greatly increase it must be closed.

The Society for Promoting Christianity among the Jews reports that much interest in it has been shown and much good-will toward it. The

collections and contributions amounted to \$7,551.86; the total of expenditures was \$12,535.33; and a cash balance of \$103.85 remains in the treasury. The society maintains 2 mission stations, with 3 lay missionaries; 71 children were this year enrolled in its New York school.

The summary of work accomplished in the year by the Woman's Auxiliary and its junior department, in which 2,611 parishes and missions took part, shows: Contributions in money, \$205,665.59; and boxes valued at \$191,772.46. Of the total of \$397,438.05 the junior department gave money and boxes to the amount of \$33,828.47. In addition to these contributions from the Woman's Auxiliary in the past year, the following amounts from the united offerings of 1892, 1895, and 1898 have come into the treasury of the board toward its appropriations: For stipend of the Missionary Bishop of Alaska, \$3,000; for support of a new missionary bishop, \$106; for woman workers in

the domestic field, \$15,021.23; in the foreign field, \$5,927.39. The united offering of 1901 will be designated: half to general missions and half to woman workers.

The American Church Building Fund Commission reports that in the year past, according to \$4,600 were made to 27 churches, and loans to the amount of \$3,846 to 5 churches. The contributions to the permanent building fund were \$11,060.12; interest on loans and investments, \$1,510.52; loans returned by parishes and missions, \$31,674.10; investment loans returned, \$9,000. The fund now amounts to \$367,218.13.

On Aug. 6, 1901, the venerable Frederick William Taylor, D. D., Archdeacon of Springfield, rector of St. Paul's Pro-Cathedral, Springfield, and president of the standing committee of the diocese of Springfield, having been duly elected bishop coadjutor of the diocese, was consecrated bishop.

Q

QUEBEC, a province of the Dominion of Canada; area, 228,900; population in 1901, 1,645,572. Capital, Quebec.

Government.—The province began the year 1901 with a Liberal Government strongly entrenched in position as the result of a recent election. The nominations for the new Assembly were made Nov. 30, and the polling was on Dec. 7, 1900. The issues turned mainly upon the popular approval of the Lieutenant-Governor's selection of Simon Napoleon Parent as successor in the Liberal premiership to the late Hon. F. G. Marchand. Despite some slight changes, the ministry was practically the same, while the Conservative Opposition, led by the Hon. E. J. Flynn, was admittedly weak—21 to 51. Mr. Parent, who had been mayor of Quebec since 1894, member of the Legislature since 1890, and Commissioner of Crown Lands since 1897, appealed to the people upon the general record of the late ministry—its economy in financial administration, its alleged change of deficits into surpluses, its reform in educational methods and management, its establishment of free text-books for the primary classes, its general progressiveness and freedom from corruption. His own personal popularity was one of the chief factors in what followed. The Opposition platform and policy were described in an address which Mr. Flynn issued to the electors, in which he declared that no new question or program was submitted to the people; that the contest was brought on prematurely and simply "to take advantage of the wave of popular favor which carried Sir Wilfrid Laurier into power; that the tenure of the Legislature elected in 1897 was being cut short without constitutional reason and at a bad season of the year; and that the Government had not lived up to their promises and the expectations of the people. The Conservative press followed this up with the charge that Mr. Parent was simply "snatching a verdict" at a time of the year when discussion was difficult and the country was still vibrating with the great Liberal victory in the recent Dominion elections. On nomination day 31 Liberals were elected by acclamation, and no Conservative. On Dec. 7 the remaining constituencies were polled, with a total result of 65 Liberals, 7 Conservatives, and 2 seats to be yet heard from. Messrs. Nantel, Hackett, and Atwater were defeated, and not an English Conservative elected. The Government, which was

thus so triumphantly sustained in the last month of the dying year, faced the opening of the new century as follows: Premier and Commissioner of Lands, Forests, and Fisheries, S. N. Parent; Attorney-General, H. Archambault; Commissioner of Agriculture, F. G. M. Déchène; Commissioner of Colonization and Mines, A. Turgeon; Provincial Treasurer, H. T. Duffy; Commissioner of Public Works, Lomer Gouin; without portfolio, G. W. Stephens and J. J. Guerin.

Legislation.—The Legislature was opened on Feb. 15 by Chief-Justice Sir L. E. U. Cassutt, in the absence, through illness, of Lieut.-Gov. the Hon. L. A. Jetté. The initial procedure was the unanimous election of Henri Benjamin Rainville as Speaker of the Assembly, after which a speech from the throne was read. The following are its important passages:

"Our fellow countrymen from this province who went to the war in the South African republics have, like their comrades in arms from the other sections of Canada, by their bravery, coolness, and manly endurance, won the admiration of their leaders and of the old regiments with which they came in contact.

"My Government has continued to devote special attention to the question of the fisheries. The ownership of those situated in the Gulf of St. Lawrence has been the subject of discussion with the Government of Canada. But nothing has been neglected to preserve the rights which the highest courts of the empire recognize as belonging to this province, and there is every reason to hope that this question will soon be decided in a manner satisfactory to us.

"A new book for primary instruction in the Catholic public schools has been prepared under the direction of the Government, and has been approved by the Catholic Committee of the Council of Public Instruction. This book will be distributed gratuitously to all the schools of the province desirous of obtaining it, and may come into use at the beginning of the next school year.

"The ordinary receipts for the past fiscal year show a surplus over all expenditure, both ordinary and extraordinary.

"My Government has succeeded in placing a building at the disposal of Laval Normal School, which will enable that institution to continue, under more favorable conditions, to carry out the useful and important task devolving upon it in our educational system.

"Agriculture in the province has reached a degree of prosperity hitherto unheard of, and my Government has been pleased and will continue in future to hold itself at the disposal of farmers, to second their efforts and encourage agricultural activity within the measure of our resources. Colonization has been energetically and successfully carried on, and a strong impetus has been given to the settlements of our public lands. The disastrous fire in Hull, which destroyed the courthouse, the registry office and notaries' safes, entailed the loss of documents of great importance. My Government at once subscribed a sum of \$25,000 for the unfortunate victims of the conflagration, and a bill will be laid before you for replacing the lost titles and documents.

"In view of the sufferings entailed by industrial conflicts, my Government has decided to place before you a measure for the purpose of facilitating conciliation or arbitration in difficulties between employers and workmen. The experience of the past three years has shown that the change in the organization of the departments of Lands, Forests and Fisheries, and Colonization and Mines, far from facilitating the working of these branches of the public service, has given rise to needless complications in the administration of affairs. To remedy this, you will be called upon to adopt a measure which, while removing existing difficulties, will allow of a considerable saving being effected by the suppression of one of those departments."

The Hon. E. J. Flynn spoke more than an hour, and criticized the Government program for its omissions as well as for its general character. In the fisheries question he trusted that none of the rights of the province would be sacrificed. He wanted to know who was going to pay for the free text-books, doubted the existence of an actual surplus, expressed dissent from the statement that agriculture was unprecedentedly prosperous, questioned the advisability of abolishing the colonization department, and inquired about the position of the Government on the subject of abattoirs and railway subsidies. On March 28 the Legislature was prorogued after a session of thirty-three days, during which the Assembly voted 24 times and sent 158 measures to the Council. The latter body submitted 24 measures to the Assembly.

Finances.—The Hon. H. T. Duffy, Provincial Treasurer, delivered his annual statement on March 7. He first summed up the condition of affairs during the five years preceding Mr. F. G. Marchand's accession to power in 1897, in order to show the difficulties which that gentleman had to face in managing the provincial finances. During that period, he said, the public debt increased by \$3,869,081; the funded debt increased by \$9,021,334; there was a yearly average deficit of \$291,481, and a total deficit of \$1,457,408; there were increased taxes amounting to \$2,262,452, and increased interest charges of \$123,082. In the first year of the new Government, ending June 30, 1898, the total deficit was reduced from \$984,043 to \$213,030; the second year there was a surplus of \$15,179; in the third year the surplus was \$36,612. This, he said, resulted from economy and involved no increased taxes. For the last year, ending June 30, 1900, the ordinary receipts were \$4,451,578, and the ordinary expenditure \$4,428,385. The chief items of increase in the receipts over the preceding year were in lands, forests, and fisheries, \$256,126; mines, \$7,835; law fees, \$5,552; direct taxes on commercial corporations, \$13,972; lunatic asylums, \$32,473. The first item was mainly owing to the increased de-

mand for timber, and especially for pulp-wood. The principal increases in expenditure were \$9,535 for legislation; \$16,221 for civil government; \$17,111 for the administration of justice; \$63,743 for public instruction; \$18,341 for agriculture; \$45,000 for colonization; lands, forests, and fisheries, \$28,135. There had been revenue decreases from the Dominion of Canada of \$41,145; from licenses, \$20,307; and from succession duties, \$17,130. The reductions in expenditure were mainly in connection with the debt, and amounted to \$20,263. The Treasurer intimated that there was a steady decrease in the amount received from the succession tax, and that it might be necessary to copy the English legislation under which transfers of property by donation within a certain period of the owner's death are regarded as transmissions by inheritance. The estimated revenue for the year ending June 30, 1902, was \$4,321,761, and the expenditure \$4,267,643. According to the official figures published at a later period, the actual receipts up to June 30, 1901, amounted to \$4,816,210. The expenditures included \$1,549,275 upon the public debt, \$235,596 upon legislation, \$278,307 upon civil government, \$534,114 upon the administration of justice, \$427,589 upon public instruction, \$147,555 upon public works and buildings, \$199,217 upon agriculture, \$138,425 upon lands, forests, and fisheries, \$189,390 upon colonization and mines, \$345,000 upon lunatic asylums, \$123,318 upon railway subsidies, and \$528,208 upon miscellaneous matters and services. The total expenditures were \$4,756,002. The funded debt of the province on June 30, 1900, was \$35,072,027. On June 30, 1901, according to the official statement, it was \$26,072,419.

The Hon. Mr. Flynn briefly criticized the budget. Any little surplus that existed was due to the sale of water-powers and other infringements upon capital. The Conservative administration in 1896 had been severely criticized because they had spent \$3,978,424, and yet the present Government had voted for 1900-1901 ordinary expenditures of \$4,510,000, and a total amount of \$4,899,435. Special warrants, which the Liberal party and the members of the present ministry had once denounced, were now being issued to an alarming extent. The appropriations for the coming year he considered insufficient, and this was proved by the increase in the warrants, while the revenues were being swelled by such extraordinary means as the sale of timber limits, water-powers, and the seigneurie of Mingan for \$447,804.

Reorganization of Departments.—On March 18 the Hon. Mr. Gouin introduced his measure for the abolition of the Department of Colonization and Mines, the limiting of the number of ministers to 6 instead of 7, the change of designation from that of commissioner to minister, the transference of colonization matters to the Department of Public Works, and of Mines to the Crown Lands Department. The measure was warmly debated, and finally passed on March 25 after some amendments by the Legislative Council. Under its terms, the title of "commissioner" was abolished, and the Lieutenant-Governor was authorized to appoint 6 ministers, as follows: 1. A minister charged with the administration of justice, and designated as Attorney-General. 2. A minister with the attributions mentioned in Act 705 and following of the Statutes, designated as Provincial Secretary. 3. A minister charged with presiding over the Treasury Department, designated as Provincial Treasurer. 4. A Minister of Colonization and Public Works. 5. A Minister of Agriculture. 6. A Minister of Lands, Mines, and Fisheries.

Montreal Power Company.—The most widely discussed measure of the session was that incorporating the Montreal Light, Heat, and Power Company. The promoters of the bill were some of the foremost citizens of Montreal. The capital was to be practically unlimited, and the object was said to be a monopoly of the lighting and heating power in Montreal and its vicinity. The present capital was \$1,000,000, but the promoters wanted power to increase it indefinitely, and refused to accept five, ten, or twenty millions, which were successively proposed. They would not tell the committee what concerns it was proposed to amalgamate, and finally the clause relating to capital passed, as well as the following: "The company may amalgamate or consolidate with any corporation in the stock or bonds of which it is authorized to invest. . . . The company may, in the city of Montreal, or at any place in the province of Quebec, within a radius of 100 miles from the said city, enter upon and construct under or over the streets and public highways all such pipes, lines, conduits, and other constructions as may be necessary for the purpose of its business." The measure became law despite varied and mighty protests from Montreal and its citizens.

Public Health.—A measure went through the Assembly on March 6, and eventually became law, which amended and consolidated the existing laws as to public health and constituted a permanent sanitary service for the province. By its terms a provincial Board of Health is formed, composed of 7 persons, to be appointed by the Government, and of whom at least 4 men are to be physicians of five years' practise or more. This body has power to appoint an inspector of health, analysts, a sanitary engineer, a statistician, and other necessary officers. Its duties are the special study of medical and vital statistics in the province, the investigation of sanitary conditions, causes of diseases and death, epidemics, and the effect of employment, habits, and environment upon the people; and it has power to make sanitary by-laws. Local boards of health were to be organized and particulars registered.

Agriculture.—The annual report of the Department of Agriculture, presented to the Legislature in February, 1901, indicated a progressive condition of affairs. An investigation had been made, under instructions from the department, into the making of cheese in the province, with a view to ascertaining why higher prices should be paid for English Cheddar cheese than for the Canadian article. Two or three cents a pound difference in the price would mean a matter of \$2,000,000 to the agricultural community. The commissioners visited the dairy school and some of the cheese factories in the province, and then studied the methods of operation and work in England. The result was an elaborate presentation of the reasons for the existing superiority, and the expression of an opinion that no insuperable obstacles existed to an improvement in Quebec manufacture. Canadian and American cheese were found to bring a lower price in England than English cheese; Quebec a lower price than Ontario cheese. The commissioners advised the appointment of a skilled and scientific cheese-maker to instruct the farmers of the province on certain points. According to the official figures for 1899, there were then in the province 404 creameries, 1,192 cheese factories, and 307 creameries and cheese factories combined. During the past few years there had been a steady increase in the production of cheese and butter.

Fruit-growing was dealt with at some length,

and Mr. D  ch  ne expressed praise in the excellent exhibit made at Paris and in the awards carried off by Quebec producers. The minister also drew attention to the admitted suitability of Canadian horses for cavalry, and to the fact that, in spite of this, the Dominion had furnished only 3 per cent. of the horses required by the Imperial Government in South Africa. The agricultural societies and farmers' clubs in the province numbered 596 in 1900, with a membership of 59,440. Their receipts were \$95,423 for the year ending Dec. 31, 1899.

Lands, Forests, and Fisheries.—The total revenue of this department for the year was \$1,299,371, exceeding by \$234,172 the highest annual receipts since confederation. The expenditures were \$150,500. Out of 222,000,000 acres of Crown lands in the province, only 22,000,000 acres had so far been alienated. Of this latter total, 11,240,721 acres had been sold and patented and 10,679,000 conceded as seigneuries. During the year 1899-1900 162,740 acres were granted to settlers for the total sum of \$73,908, while 1,999 acres of free grants were given, and 7,500 acres to parents of 12 children. Timber limits were sold during the year by auction for \$394,604. The Belgo-Canadian Company, which in 1898 had purchased 743 square miles, were now ready to carry on a large pulp business at Shawnigan Falls.

An important matter that was settled during the year was the dispute between the Government and the Labrador Company, involving the title to some land on the north shore of the St. Lawrence, near the Mingan Islands group. Under the terms of the settlement, \$26,000 came into the treasury, together with a yearly rental of \$1,000 for fishing privileges for fifteen years in certain waters fronting the Seigneurie de Mingan.

Immigration.—In the year ending June 30, 1900, \$124,000 had been expended on the construction or repair of 561 miles of roads, including 16,289 feet of bridges and culverts. While positive figures were impossible to give, the Hon. Mr. Turgeon believed that there was a large and constantly growing element of returned emigrants from the United States, and a consequent increase in the formation of new settlements and extension of old ones. The returns of the Fitchburg Railway and its connecting lines from July 1, 1899, to June 30, 1900, showed the return or repatriation of 8,241 persons. The immigration agents' reports indicated a substantial increase in arrivals from Europe generally. In the twelve months, 2,942 immigrants were registered at Montreal. The arrivals at Quebec numbered 4,686.

Education.—According to the report for the year ending June 30, 1901, there were 4,147 Roman Catholic elementary schools under the control of the commissioners, and 113 under the control of trustees, and 51 independent; 644 Protestant elementary schools under the control of the commissioners, 220 in charge of trustees, and 5 independent; 398 Roman Catholic model schools and academies under the control of the commissioners, 1 in charge of trustees, and 243 independent; 58 Protestant model schools and academies under the control of the commissioners, 18 in charge of trustees, and 4 independent academies. There were 19 Roman Catholic classical colleges, similar to the Ontario collegiate institutes. The number of pupils in the Roman Catholic elementary schools was 171,824; the average attendance was 118,490; the average salary of male lay teachers with diplomas was \$242; of females, \$111. The number of pupils in the Protestant elementary schools was 27,598; the average attendance was

20,049; the average salary of lay male teachers with diplomas was \$663, and of females \$152. The number of pupils in Roman Catholic model schools and academies was 102,855; the average attendance was 85,097; the average salary of male lay teachers with diplomas was \$487, and of females \$130. The number of pupils in the Protestant model schools and academies was 8,976; the average attendance was 7,330; the average salary of male lay teachers with diplomas was \$830, and of females \$291.

In the Roman Catholic classical colleges there were 2,171 pupils in the commercial course and 3,666 in the classical course. The average attendance was 5,361. The number of Protestants in the Roman Catholic elementary schools was 724; those attending the Catholic model schools and academies numbered 15,194. The Roman Catholic pupils in Protestant elementary schools numbered 2,187, and in the Protestant model schools and academies 419. Including elementary, model, and normal schools, universities, colleges, academies, and schools for the deaf and dumb, and art and design, there were 5,958 schools in the province, 2,215 male teachers, 8,640 female teachers, and 322,761 pupils. The Government expenditure upon schools in 1899-1900 was \$449,950. A new normal school for girls was opened at Montreal. The French pupils learning English in the schools of the province numbered 73,506, and the English pupils learning French 24,608.

Public Works.—The payments to railways between July 1, 1899, and June 30, 1900, amounted to \$90,276 in cash and land subsidies converted into cash. Of this total, \$10,000 went to the South Shore Railway, \$59,181 to the Great Northern Railway, and \$21,095 to the Pontiac and Pacific Junction Railway. The total mileage of railways in the province was 3,387. Of the \$10,696,230 granted by the province in railway subsidies to June 30, 1900, \$7,742,243 had been paid, \$2,287,802 had lapsed, been transferred, or aban-

doned, and \$666,183 remained to be paid when earned.

Mines.—Mr. J. O. Valski, Inspector of Mines, advised the commissioner in March, 1901, that "the mining industry continues to develop regularly in this province, without, however, presenting any very striking new features. The most important operations have been in asbestos, copper, mica, chrome, and iron, and an increase in the output of these has to be reported. The working population has augmented, and it is noteworthy that in certain districts wages have been raised 25 per cent. by the mining companies." The gross value of the minerals utilized was \$2,546,076 for the year running from Jan. 1, 1900, to Jan. 1, 1901, and the number of persons employed 5,400, with about \$1,300,000 received in wages for ten months' work.

Prisons and Asylums.—In the year 1899-1900, the number of prisoners in the province was 4,626, of whom 3,787 were men and 839 women, an increase of 256 over the preceding period. The inspectors gave reasons for this change. "For the last year or two especially, thieves, swindlers, tramps, and all who have any interest whatsoever in hiding from justice, seem to have gathered together in one city [Montreal], and have doubtless largely contributed to filling our prisons." Another cause was the activity of the police in Montreal against disreputable women. The prisoners under sixteen, however, decreased in a most marked manner, numbering 56 against 74 in 1898. There were 1,468 convictions for drunkenness, against 2,167 in the previous year. The expenditures for maintenance were \$116,602, an increase of \$11,819. There were 3 reformatory schools for boys and 2 for girls, costing for maintenance \$34,780. The 5 industrial schools cost \$27,722.

In the asylums of the province the number of inmates in 1899 was 2,981, and the cost of maintenance \$314,157. The percentage of cures was reported as smaller than in the preceding year.

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REFORMED CHURCHES. I. Reformed Church in America (Dutch).—The Committee on the State of Religion reported the following statistics of this Church to the General Synod in June: Number of churches, 651; of ministers, 723; of families, 62,111; of communicants, 110,898, showing a net gain of 999 for the year; received during the year by confession, 5,428; number of Sunday-schools, 912; amount of contributions for all benevolent objects, \$380,811; for congregational purposes, \$1,196,131; showing an increase for the year of \$53,765 in benevolent contributions, and of \$105,748 in those for congregational purposes.

The Board of Education had aided 77 students, against 90 in the previous year. Its total receipts had been \$22,791, and its disbursements \$20,545. A bequest of \$1,483 had been received, and the Educational fund had been increased by a legacy of \$3,500. The board had begun the year free from debt, had been able to care for all its students, and to grant the full amount recommended to the several institutions, and closed the year in a sound financial condition.

The total investments of the Widows' fund amounted to \$108,698; the income account was \$12,635; and the disbursements had been \$11,213. Two hundred and nineteen churches had contributed to the fund.

The endowment of the Disabled Ministers' fund

had been increased to \$67,593. Only 294 of the 643 churches were contributing to it. The receipts from contributions and interest, \$6,826, had been insufficient to meet the demands upon the board, and its treasury was \$500 in arrears.

The Board of Publication reported sales during the year to the amount of \$26,000.

The 675 Christian Endeavor Societies, senior and junior, had contributed \$34,047 to the various causes of the Church.

Nine hundred and twelve Sunday-schools were reported, including 157 in the classis of Arcot, India, with 123,804 pupils enrolled. Their contributions to Church benevolences amounted to \$23,139.

The contributions to the General fund of the Board of Domestic Missions had been \$26,369, or \$2,273 more than in the previous year. This fund is applied to the salaries of classical missionaries, and for the erection and furnishing of churches and parsonages of the student missionary, Indian, and Kentucky mountaineer missions.

The Board of Foreign Missions reported that while the receipts—exceeding \$173,000—had been the largest in its history, severe retrenchments had been necessary in its appropriations for the regular work of the missions. This was largely because a considerable number of the gifts had been made for specific objects, leaving the amount generally available less than was actually needed.

For the future avoidance of this disproportion in the designation of gifts, the Synod recommended to givers that they see that the regular work is fully provided for before giving to objects outside of the appropriations, and that when they give to such special objects, they allow the board more liberty in applying their gifts. The board having declined to accept any of the "exemplary damages" collected by the American consul for losses sustained in the Chiang-Chiu field, China, its action was cordially approved by the General Synod. The Synod also gave its approval to a proposed union of native churches in south India on a plan described in a memorial from the Synod of Arcot.

The receipts of the Woman's Board of Foreign Missions for the year had been \$31,500.

The General Synod met in its ninety-fifth annual session at New Brunswick, N. J., June 5. The Rev. Denis Wortman, D.D., was chosen president. The special Committee on the Finances of the Theological Seminary at New Brunswick, which was appointed in 1897 in view of the seminary's loss of income on account of the declining rate of interest, reported concerning its labors to increase its endowments and to obtain gifts for its current expenses. The sum of \$91,059 had been secured. The endowments of the seminary amounted to \$463,000. Reports were also made of the Western Theological Seminary, at Holland, Mich., and of the seminary in the Arcot Mission, India. Committee reports were presented on revision of the baptismal forms and of the forms of ordination. In the baptismal form a change was approved in the order of the prefaces of the forms for infants and for adults, and an option was given for the omission of a paragraph which was essentially a repetition. The report on the forms for ordination was approved, and the proposed changes were sent down to the classes. The publication of a year-book was authorized. The Synod, declaring itself ever "in the front in every moral cause and in hearty sympathy with every movement tending to the suppression of vice and the uplifting of humanity," bade "Godspeed to all the societies and organizations working in behalf of temperance reform, and especially to the Woman's Christian Temperance Union and the Antisaloon League." The Committee on Systematic Benevolence reported that about 150 churches had availed themselves of the offers made through the permanent committee, and that there had been a gain of 211 in the number of churches contributing to the missionary and other benevolent causes. A committee was appointed to meet a similar committee of the Christian Reformed Church for the purpose of providing against harmful competition in establishing churches by the two denominations. In a resolution commending the American Sabbath Union, the Synod urged upon members the utmost caution in their personal use of the day, and deprecated "such spasmodic action as would bring the laws into disrepute."

II. Reformed Church in the United States (German).—The Almanac for the Reformed Church in the United States for 1902 gives statistics of this Church, of which a summary follows: Number of synods, 8; of classes, 58; of ministers, 1,107; of congregations, 1,688; of communicants, 248,929; of confirmed members, 197,416; of unconfirmed, 127,541; of students for the ministry, 200; of baptisms during the year, 13,377 of infants and 1,745 of adults; of confirmations, 11,898; amount of contributions, \$270,288 for benevolent and \$1,303,241 for congregational purposes. In a general survey of the progress of this Church dur-

ing the nineteenth century, the Rev. Z. A. Yearick represents in a summary view of the general results of its activity during the last quarter of that century, that the General Synod, organized in 1863, continued supervision over the Reformed Church. The six district synods of the United States numbered 8, the 44 classes to 58; the number of members advanced 73 per cent., that of confirmed members 25 per cent., the membership 70 per cent., and the annual contributions to benevolence 147 per cent. Hence the benevolences of the Church increased almost twice as fast as the membership. Great strength was added to the Church in particular localities. The first educational institution was founded in 1825. At the close of the century the Church had 20 such institutions, of which 5 were theological and 15 literary, 3 of the latter being exclusively for the education of women, all of them together being attended by nearly 2,000 students. The first Church paper was started in 1828; there are now, including English, German, Sunday-school, and college periodicals, 33 publications. Three orphans' homes are supported, at an annual cost of about \$18,000, where more than 1,200 orphans have been educated and trained. The valuation of the endowments and properties of these institutions is more than \$175,000. Two deaconesses' homes and hospitals were founded during the last decade of the century. Other benevolences are a Ministerial Relief Society—the oldest charitable institution of the Church—and the David Stein Memorial Home for Disabled Ministers and their Widows, the combined property of which is valued at \$59,000. The foreign mission, in Japan, was established in the last quarter of the century. Its central station is in the city of Sendai. Twenty-six missionaries have been sent out, of whom 18 are still at work, assisted by Dr. Oshikawa, one of the earliest Japanese Christian converts, and a large number of ordained and unordained native helpers. The mission has many preaching stations, a theological school, a literary institution for boys, and a seminary for girls. Steps had been taken for establishing a mission in China, 2 missionaries had been commissioned and started on their way, and a station selected, when the "Boxer" disturbances broke out.

The meeting of the General Board of Home Missions was held in Pittsburgh, Pa., April 9 to 11. Five of the churches under the care of the board had become self-supporting. Additional care had been found advisable in the calling Hungarian ministers by being more exact in requiring proper certificates of dismissal from their Church authorities in Hungary, and other evidences of their good standing at home. The classes were requested to adopt certain measures looking to making the consideration of home missions a more important feature in their transactions. A proposal to institute a conference of all the home missionary field workers of the various churches to consider questions of fields and methods was referred, with a request that they consider it, to the Home Mission Committee of the American section of the Alliance of Reformed Churches.

Of 133 home missions of this Church, 99 were under the General Board and 34 under the German boards. Five missions had become self-supporting during the year, 3 new Hungarian missions had been organized, and 2 additional pastors had been called from Hungary.

RELIGIOUS STATISTICS OF THE WORLD. In a summary of the religious statistics of the world given in a *Beilage* to the *Allgemeine Zeitung* in January, 1901, it is estimated that there are in Europe 384,500,000 Christians,

6,600,000 Mohammedans, and 6,500,000 Jews; in all America, 126,400,000 Christians, while the numbers of Jews and heathen are not estimated; in Asia, 12,600,000 Christians, 100,500,000 Mohammedans, 200,000 Jews, and 667,800,000 pagans; in Africa, 4,400,000 Christians, 36,000,000 Moslems, 400,000 Jews, and 91,000,000 heathen; in Oceania, 9,700,000 Christians, 24,700,000 Moslems, and 4,400,000 heathen.

Of Catholic, Protestant, and Greek Christians, the estimates are: In Great Britain, 5,400,000 Catholics and 37,700,000 Protestants; in France, 37,700,000 Catholics and 700,000 Protestants; in Germany, 18,600,000 Catholics and 32,700,000 Protestants; in Russia, 8,300,000 Catholics, 3,100,000 Protestants, and 73,800,000 of the Greek Church; in Austria, 33,800,000 Catholics, 4,100,000 Protestants, and 3,300,000 Greeks; in Italy, 60,000 Protestants out of a total population of 31,160,000; in Spain and Portugal, 10,000 Protestants out of 22,700,000; in Scandinavia, 10,000 Catholics and 9,290,000 Protestants; in Belgium and Holland, 7,990,000 Catholics and 2,710,000 Protestants; and in the Balkan States, 1,900,000 Catholics, 4,130,000 Protestants, and 12,400,000 Greeks; in all Europe, 167,500,000 Catholics, 94,410,000 Protestants, and 89,500,000 Greeks; in the United States, 62,300,000 Protestants and 9,900,000 Catholics; and in the whole world, 240,000,000 Catholics, 163,300,000 Protestants, and 98,300,000 Greeks, or—according to the author of the computation—a total of 501,600,000 Christians in a population of 1,544,509,000.

RHODE ISLAND. (See under UNITED STATES.)

ROMAN CATHOLIC CHURCH. By an apostolic letter dated Jan. 23, 1900, but not published until a year later, Pope Leo XIII extended the privileges of the jubilee to all countries for any six months in the following year, giving the faithful who were unable to visit Rome in 1900 an opportunity of gaining at home the indulgences of the Holy Year. In every country the greatest advantage was taken of the opportunity. In nearly every city under Christian government processions were formed and visits made by thousands to the churches prescribed by the ordinary. This extension of the jubilee, though by no means regarded as a matter of course, is in accordance with the traditional practise of the Holy See for many centuries. The final ceremony at the Holy Door was performed on Saturday, Jan. 12, when Mgr. Della-Volpe, major-domo of his Holiness, directed the filling up of the space in the wall outside the door with bricks and a slab of marble, after placing in the masonry a bronze casket containing 12 gold, 30 silver, and 60 bronze medals, and 2 parchments containing an account of the transactions of the jubilee.

The Pope, on April 15, created 12 new cardinals, an addition of about one-fifth to the Sacred College, which thereupon became filled. They were Mgr. Saumiatelli-Zabarella, titular Patriarch of Constantinople; Mgr. Gennari, Archbishop of Lepanto; Mgr. Della-Volpe, Major-Domo to his Holiness; Mgr. Cavagnis, Secretary of the Congregation of Extraordinary Ecclesiastical Affairs; Mgr. Tripepi, Under-Secretary of State at the Vatican; Mgr. Dell' Olio, Archbishop of Benevento; Mgr. Boschi, Archbishop of Ferrara; Mgr. Bacilieri, Bishop of Verona; Mgr. Ribaldi, Bishop of Pavia; Mgr. Martinelli, Papal Delegate to the United States; Mgr. Knioz de Kolziesko Puzyna, Archbishop of Cracow; and Mgr. Skrebensky, Archbishop of Prague. Their elevation raised the number of members of the Sacred College to 67 for the first time in a good many years. Ten out

of the 12 were Italians, making 40 Italians in the college altogether. The majority of Italians at the beginning of Leo XIII's pontificate was 12, and it has never since exceeded that number.

The persecution of the regular clergy in France was the occasion of much perturbation at the Vatican during the year. When the associations bill was before the Legislature, his Holiness expressed his grief to those around him, and publicly in his letter to Cardinal Richard, Archbishop of Paris; when it passed he consoled and advised its victims in a letter to the superiors-general of the religious orders, and entered a formal and vigorous protest with the French Government in a diplomatic note which the Cardinal Secretary of State consigned to the French ambassador to the Holy See. One feature of his letter to the superiors-general was the complete absence of instruction as to the policy they should pursue with regard to authorization. The matter was left entirely to themselves. In conversation with such of the superiors-general as appealed to him personally, he declared that their discretion must determine their conduct. He made it clear, however, that the jurisdiction of the orders must be dependent upon the Holy See, and that submission to the secular bishops (ordered by the law) must be only in such points as those over which the ordinary had previously had control.

The address of the Duke of Norfolk to the Pope, on the occasion of the visit of the English pilgrims in December of 1900, in which his Grace expressed the hope that his Holiness might regain his temporal power, was taken up by the socialist press of Italy as a grave insult to the Quirinal by a supposedly friendly power. Although it was made the subject of an interpellation in the Italian House of Deputies, the ministry refused to treat it as an international incident, and after considerable fluttering in the socialist dovecote, the incident was closed.

The important utterances of the Holy See for the year were as follow: The encyclical above referred to, extending the jubilee; an encyclical on the social question, Jan. 18; a letter to the citizens of Como, approving their efforts to show public honors to Alessandro Volta, the electrician and discoverer of the voltaic current; an apostolic letter regulating the management of religious communities which profess simple vows; a letter of commendation to the Society of St. Vincent de Paul; a letter to the University of Glasgow, answering an invitation to take part in the jubilee celebration of the institution; an apostolic letter on the devotion of the Rosary; an apostolic letter addressed to the hierarchy of England, condemning the false tenets of liberal Catholicism and rationalism; a brief of commendation to the Benedictines of Solesmes in recognition of their labors for the restoration of the Gregorian chant; a brief conferring upon St. Bernard's Seminary, at Rochester, N. Y., the right of granting degrees in philosophy and theology; and an allocation at the consistory at which the cardinals were created, addressed principally to the Italian clergy, urging them to resist the passage of a divorce bill about to be introduced into the Italian Parliament. In December the Pope appointed a special pontifical commission for the consideration of all questions connected with Bible studies, to consist of Cardinal Parocchi, as president, Cardinals Segna and Vives, and 11 consultants chosen from different countries of the world.

The Sacred Congregation of Rites, in May, issued a new formula for blessing the lilies in honor of Saint Antony of Padua, and in August issued a decree announcing that the privilege accorded

to Pustet of Ratisbon, giving him exclusive authority to publish the Medicean edition of the Gregorian chant, had expired. The significance of this last decision, read in connection with the papal brief to the Benedictines at Solesmes, is that it practically revokes the authorization given to the Ratisbon edition, and paves the way for a recognition of the results of the labors of the Benedictines for the restoration of pure Gregorian chant as the authorized form of chant to be used in all the Catholic churches in Christendom.

The Pope, in August, took steps toward the reorganization of the Girolamite College in Rome, which was founded by Nicholas V about a hundred years ago for the benefit of the Croats. Pope Leo XIII turned the college over to the Croatian bishops, for use as an ecclesiastical seminary. Inasmuch as Nicholas V's bull erecting it refers to it as a hospice for Dalmatian and Slovenian pilgrims, and some present-day Dalmatians are Italians, they appealed to the prefect of Rome to prevent the execution of the papal decree. On Aug. 29 a band of Italian Dalmatians invaded the institute with the avowed intention of resisting the papal bull, and the Italian Government appointed an administrator of the institute. Then Austria, under whose patronage the institute had been since its foundation, sent a strongly worded note to Italy, demanding the withdrawal of the administrator and the Dalmatians. They were withdrawn, and the institution turned over again to the Pope.

Preparations for the celebration of the silver pontifical jubilee were begun late in the year, for, in spite of the alarming newspaper reports, the Pope's health during the year was uniformly good. His present reign of nearly twenty-four years (twenty-three years ten months and eleven days to Dec. 31) makes it the sixth in order of duration. The popes who have reigned longer are St. Peter (33-67), thirty-four years six months; Pius IX (1848-78), thirty-one years seven months twenty-two days; Pius VI (1775-98), twenty-four years six months fourteen days; Adrian I (771-95), twenty-three years ten months twenty-seven days; and Sylvester I (314-37), twenty-three years ten months twenty-four days.

The statue of St. John Baptist de la Salle, the most recently canonized saint, was lifted to its niche in St. Peter's in October. It is the work of the sculptor Aureli, and is about 18 feet high. Its niche is in the right wall of the principal nave. The statues in St. Peter's are arranged in accordance with the symbolism of the immense temple. The altar, in the very heart of the edifice, stands upon the body of Peter; around it are the bodies and relics of the 12 apostles, as if gathered in a perpetual council about their head; around these is a wider crown formed of the great founders and foundresses who have raised up religious families in the Church; finally, St. Peter of Alcantara and St. Theresa stand at the door, as it were, to remind Christians of the spirit of prayer and mortification with which they should enter the house of God.

United States.—By a decision of the Department of the Interior, rendered in May, Indian children belonging to a Government school were permitted to attend a private or denominational school if their parents so chose. This decision was reached only after a long agitation by Catholic missionaries. It had been made by Mr. Browning, Commissioner of Indian Affairs under Cleveland, at a time when the Catholic schools were also Government schools. The withdrawal of Government aid put the schools on a private

footing, and prevented the Indian children from attending them.

Pope Leo XIII in July addressed a letter to Cardinal Gibbons, commending the University of Washington for the progress it had made, and mentioning the means by which its library could be greatly increased.

The third annual conference of the Catholic colleges of America met April 10 at Chicago, and was addressed by Cardinals Martinelli and Gibbons. The association adopted a set of resolutions calling to the attention of American bishops the need of founding and developing Catholic high schools and of working in concert toward securing recognition from the state of the work being done in the parochial schools.

Mgr. Scalabrini, Bishop of Piacenza, sailed from Italy to the United States in August to examine into the religious condition of his countrymen in this country. Following him came 25 nuns of Piacenza to take charge of the schools he was to found.

In August were received papal briefs erecting the new diocese of Altoona, Pa., to be composed of the counties of Westmoreland, Fayette, Indiana, Blair, Cambria, Somerset, Huntington, Bedford, and Clinton. Mgr. Eugene Jarvey was named as bishop of the new diocese, and was consecrated in September.

Right Rev. Michael Wigger, Bishop of the diocese of Newark, N. J., died Jan. 6. He was succeeded in his episcopate by Right Rev. John J. O'Connor, previously vicar-general of the diocese. At the same time Mgr. William H. O'Connell, rector of the North American College, Rome, was elected to succeed the late Bishop Healy as Bishop of Portland, Me.

The Catholic population of the United States at the close of 1901 was 10,774,987, a growth of 645,312 during the year. There were in the United States 13 archbishops, 80 bishops, 11,987 priests, 6,127 churches with resident priests, 3,518 missions with churches, and 1,774 chapels.

Of Porto Rico the Catholic population was 1,012,400; of the Philippines, 6,565,998; of Hawaii, 33,000; and of Cuba, 1,600,000.

England.—The address of the Duke of Norfolk to the Holy Father was considered important enough to stir the British public to some indignation over what it stigmatized as "a wanton attack on a friendly power." In spite of the standing of the speaker, something might have been born over the newspaper discussion of it, had not the Queen's death put the matter out of the public mind. The national regret over the loss of its ruler was voiced in pastoral letters on the subject from the cardinal archbishop and the bishops of every Catholic diocese in England.

The royal declaration against popery then took the center of interest, and held it until a temporary disposal of it was made at the close of the session of Parliament. The declaration which his Majesty was required to make upon his accession was framed in the reign of Charles II, when religious animosities were unusually bitter. It runs as follows:

"I do solemnly and sincerely, in the presence of God, profess, testify, and declare that I do believe that in the sacrament of the Lord's Supper there is not any transubstantiation of the elements of bread and wine into the body and blood of Christ, at or after the consecration thereof by any person whatsoever; and that the invocation or adoration of the Virgin Mary or any other saint, and the sacrifice of the mass as they are now used in the Church of Rome, are superstitious and idolatrous. And I do solemnly, in

the presence of God, profess, testify, and declare that I do make this declaration and every part thereof in the plain and ordinary sense of the words read unto me, as they are commonly understood by English Protestants, without any evasion, equivocation, or mental reservation whatsoever, and without any dispensation, already granted me for this purpose by the Pope or any other authority or person whatsoever, or without any hope of any such dispensation from any person or authority whatsoever, or without thinking that I am or can be acquitted before God or man or absolved of this declaration or any part thereof, although the Pope or any other person or persons or power whatsoever should dispense with or annul the same, or declare that it was null or void from the beginning."

Even before his Majesty's recital of it, strong protest against the declaration was made by the Catholics of the empire. Why the ruler should be less free than the subject to choose his religion, or be obliged to undergo a religious test for office unnecessary in any other case, seemed sufficiently inexplicable; but, granting the necessity of safeguarding the Protestant succession, it seemed gratuitous for the King to single out for insult one religion out of the many professed by his subjects, and stigmatize it as idolatrous. It imposed an indignity upon 10,000,000 Catholics, and upon the King himself, whose honor and veracity it questioned. Since the only remedy was by act of Parliament, Edward VII, like the gentleman he was, made the taking of the declaration as inoffensive as possible, by repeating the words in an undertone audible only to the Lord Chancellor. When Parliament met, the agitation broke out afresh. The Catholic peers sent a protest to the Lord Chancellor; and it was joined by similar protests from the Catholic hierarchy of England, Scotland, Ireland, Wales, Canada, Australia, India, Malta, Jersey, and the Straits Settlements. A resolution was introduced into the Canadian Parliament, praying that the King reform the offensive declaration by omitting all expressions offensive to the religious belief of any of his subjects, and was passed by a vote of 125 to 19. The Australian Parliament, and that of Malta, passed similar resolutions. Then the House of Commons woke up, after Mr. Balfour had ingeniously tried to side-track the affair by pointing out that the offensive declaration would not have to be taken again during the present reign, and consented to the appointment of a joint committee to revise the declaration. In the meantime Lord Broye had introduced a bill into the Lords abolishing the declaration. The upper house was not prepared for such a radical step and fell in with the Balfour plan. A select committee of the House of Lords was finally settled on, and reported in June in favor of a modification of the declaration. The amended formula, however, met with little favor, since it retained a statement of the King's disbelief in transubstantiation, the sacrifice of the mass, and the "adoration" of the Virgin Mary. When the Lords went into committee of the whole on the bill, it was seen that a modification of the declaration was impracticable, unless the house should adopt the suggestion of one of the Catholic peers and make it read "I renounce the Pope and all his works." Any promise to maintain the Protestant religion, said the Archbishop of Canterbury, would give immediate point to the question "Which Protestant religion?" The one by law established? But there were two—one for England and one for Scotland—and besides it was not intended to prevent the sovereign from being or becoming a Methodist, a Wesleyan, or a Con-

gregationalist. The only point in the declaration was that it excluded Catholics, or was designed to; for as a test it was useless. Finally after half a dozen sessions of the house had been devoted to the question, the Catholic members still objecting to the amendment, it was dropped for the session.

By its judgment in the so-called Cockerton case the Court of the Queen's Bench decided that the functions of the local city, town, and borough boards of education were limited to controlling and supporting elementary schools, under the existing acts of Parliament. To provide for the secondary schools a bill was introduced into the House of Commons establishing new educational authorities, to whose hands all secondary education was to be entrusted. The feature of the measure of greatest interest to Catholics was its provision for the support of denominational schools on the same basis as non-sectarian institutions. Its conscience clause contained the stipulation that the time for religious worship or for any lesson on a religious subject should be conveniently arranged for the purpose of allowing the withdrawal of any scholar therefrom. The bill underwent considerable tinkering in committee, and was dropped for the session to give way to more pressing measures. The Government committed itself, however, to the passage of a bill containing as its main feature the support of denominational schools.

The time-worn demand for better religious facilities for Roman Catholic sailors in the navy came up again in the debate in the house preceding the report of the committee on supply. Beyond extorting the annual promise of the Government that provision would be made toward putting Catholic chaplains in the navy on the same footing as regards rank, pay, and proportionate representation with their brethren of the Established Church, nothing was accomplished. No Catholic chaplains are allowed on board ship, and the "shore system," by which the men while in port are supposed to be able to attend to their religious duties ashore, has proved a failure owing to a natural disinclination of their commanders to give them shore leave denied to their comrades. In addition to this, many of the priests receiving pay from the British Government for acting as shore chaplains in distant ports—like Alexandria, Port Said, and Indian ports—are unable to speak or understand English and can be of little practical assistance even to those who are fortunate enough to have access to their ministry.

As a polite atonement for the enforced insult of the accession declaration, the King invited a deputation of the Catholic hierarchy of England to visit him, and was unusually gracious to the idolaters. The subject of the declaration was not raised, but the King later expressed his hope that provision for its elimination might shortly be made.

The campaign against Catholicism in France woke the islands of Jersey and Guernsey from half a century of sleep and induced them to adopt two measures of persecution. By the first the members of religious orders exiled from France were prohibited from landing in the islands. The second provided that no school which had not obtained a certificate of efficiency for the year ending Sept. 30, 1899, should share in the education grant. Of the 9 Catholic schools in the islands, 8 were excluded by the provisions of the bill, although 7 of them had obtained the certificates before the measure was introduced.

As a mark of special favor to the Catholics of England, Leo XIII obtained from the authorities of the Church of Toulouse the cession of the ven-

erable body of St. Edmund, king and martyr, and sent it, in the custody of Mgr. Merry del Val, to the new cathedral at Westminster. Until its shrine should be prepared, the relic was entrusted to the Duke of Norfolk, Earl Marshal of England. St. Edmund was King of East Anglia, 855-870; taken prisoner by the Danes, and beheaded. He was buried in the abbey church of Bury St. Edmund's. Here his body remained until 1217, when, after the defeat of a part of the confederate army at Lincoln by the earl marshal, Louis (afterward Louis VIII of France), who led the French forces, purloined the sacred relic, and carried it out of the country. Two or three years later the prince carried the body with him to the south of France on his expedition to quell the Albigenses, and deposited it in the Basilica of St. Sernin at Toulouse.

Bishop Brindle, D. S. O., the famous army chaplain, was appointed in November to the see of Nottingham.

In consequence of the erection of a cathedral at Westminster on a larger scale, the Holy See increased the number of its canons from 11 to 18, and assigned to them the same canonical dress as that used at St. Peter's at Rome.

Ireland.—As a sort of afterthought to the outcry made in all parts of the empire against the accession declaration, the Irish members in the House of Commons turned their attention to the removal of another relic of anti-Catholic legislation—the Catholic disabilities acts, of the reign of William III and George III. In so far as they affected the laity and secular clergy, these acts had long been repealed, but certain of the regular clergy, the Jesuits by name, and several other orders by description, were still treated as outside the protection of the law. In Ireland none of these communities could hold or receive realty, and while no attempt had been made in a generation to enforce the law as regards property purchased, that bequeathed to a religious community, a church, or a regular clerk was often diverted from its legatee by a zealous or intolerant relative of the donor. The judgment of the master of the rolls in the case of *Doolan vs. Cahill*, which came before him in April, gave point to the contention of the Irish members for the repeal of the penal statutes. In this case the testator bequeathed £500 to a Capuchin church, and the master had no option but to set aside the bequest as illegal, the whole course of decisions having established the principle that the order had no legal existence. In a later case (*Roche vs. McDermott*, decided in May), the master of the rolls gave the same pronouncement "with reluctance that amounted to positive disgust." The bill introduced by the Irish members was cleverly side-tracked by Mr. Balfour, although no member of the House of Commons could be found to oppose it.

Better progress was made, however, in the quarter-century-old agitation for an Irish Catholic university. Early in March Earl Cadogan, Lord Lieutenant of Ireland, received a deputation from the Royal University, and, in compliance with their unanimous request, presented the question so strongly to the Government that in April a royal commission was appointed to inquire into and report on the whole field of Irish university education. The commission began its sittings in September, and the Bishop of Limerick, its first witness, showed that the population of Ireland was 74.3 per cent. Catholic, 13 per cent. Episcopalian, and 10 per cent. Presbyterian. The commission made a searching inquiry into the entire question, and at the end of the year was ready

to rise and report. What legislation should follow its report was uncertain, but the friends of an Irish Catholic university were gratified at the results of the year's work.

Canada.—The Delpit marriage case was decided in March in the Superior Court of Montreal, overturned what had been the ruling law of a century or more in the province of Quebec. The decision was, that a marriage of two Catholics solemnized before a Protestant minister was valid. Under the French law of the province, it was impossible for a religious officer to marry persons both of whom professed a different religion from his own. The question, therefore, in the Delpit case was of the construction of the Canadian statute, which made all religions equal. The case was appealed to the Privy Council.

Australia.—In October Mgr. Kelly, rector of the Irish College at Rome, was appointed coadjutor to Cardinal Moran, Archbishop of Sydney, with the right of succession.

Bishop Crane, of Sandhurst, Victoria, died Oct. 26.

New Zealand.—The foundation-stone of the great new Cathedral of Christchurch was laid Feb. 11 with appropriate ceremonies.

France.—The attack upon religious orders in France, which had been made at the beginning of the Waldeck-Rousseau Government and continued unabated in every subsequent session of the Chamber of Deputies, culminated June 22, 1901, in the passage of the associations bill, which had been introduced into the Chamber the year before. The measure was one of confiscation and secularization—confiscation of the property of the regular congregations by making it impossible for them to hold it, and secularization of the religious orders by forbidding them to stay in France unless they should give up their distinctive religious privileges as orders and become subject to the jurisdiction of the French bishops, who are the paid servants of the state.

The measure as finally passed provided substantially that no order could exist or hold property in France unless within six months from the passage of the act it should apply for authorization. Should it apply, it might be successful or not in getting its certificate, as the Deputies should be in a lenient or stringent mood at the time of the application. If it were successful, it must submit its finances to Government inspection and keep a list of its members, with their public and private history, for the information of the prefect. Further clauses provided that no congregation should be authorized which should not be subject to the jurisdiction of the ordinary, who must himself accept the obligation thus imposed on him. And by Article XIV all congregations or members thereof were forbidden to direct educational establishments, or to teach therein.

Besides destroying the Jesuit and Assumptionist schools, the bill had a deeper object. It aimed to destroy in the orders which should remain in France the centralization of authority which was of the essence of their being. To do this the orders were made subject to the bishops, and to complete the assurance of autonomy in each establishment, each house of each of the orders was directed to apply for authorization as though it were a separate congregation. As to the second demand, it is entirely at variance with the actual principle of the regular clergy, uniformity of discipline, centralization of authority, and obedience to a single superior. The first, so long as the bishop should assume no more control than that commonly possessed by the ordinary over regular clergy in his diocese, the Pope re-

fused to forbid. He had no objection to episcopal control within the limits prescribed, he said. But the point was, that the law expected and demanded more. It wished to separate the houses of the orders from their head, and to make them dependent for control, and even for existence, on the will of their own paid servants.

The result of the passage of the law was the exile of most of the great religious orders of France. Rather than apply on the terms prescribed they left the country by thousands, settling in Italy, Canada, England, Germany, and Austria. Of 12,176 houses, only 416 applied for authorization, the remainder preferring to surrender their homes and property at once to being robbed of it piecemeal while under a ban which prevented them from carrying on their work.

With their appetites nicely whetted by this success, the socialists took another step toward the destruction of the Church in France by refusing to pass the annual budget of worship, from which are paid the salaries of the priests and bishops. It was not until Waldeck-Rousseau had clearly explained that their opposition was premature, and that the design was to enlarge the responsibility of the bishops while making them dependent on the state, that he forced the budget through the house.

A third opportunity came in the discussion of the Chinese indemnity loan bill, by which it was proposed to commute the instalments of the indemnity of \$53,000,000 which China had agreed to pay to France by means of a loan. Of the indemnity, about \$6,000,000 belonged to the religious orders, and this part it was proposed not to raise by a loan, but to leave it dependent on China's leisurely payments. In a word, France purposed to guarantee all the indemnity except that going to the orders. To this, however, the Premier demurred again, showing that it was necessary for France to protect in China congregations whose property it was confiscating at home in order to preserve French spheres of influence in disputed territory; and by using all the party machinery, the Premier succeeded in having the indemnity loan include the orders.

Mgr. Isoard, Bishop of Annecy, died Aug. 3.

Nine vacant sees were filled during the year. Mgr. Bonnefoy, Bishop of La Rochelle, was transferred to the archiepiscopate of Aix, Canon Le Camus succeeding him. Abbé Bouquet was appointed to Mende, M. Ricard to Angoulême, Abbé Andrien to Marseilles, Abbé Delamaire to Périgueux, Abbé Lacroix to Farentaise, Abbé Dubois to Verdun, and Abbé Canappe to Guadeloupe.

Austria.—The anticlericalism which agitated France so greatly throughout the year found echoes in the countries in the southern tier of Europe, more or less strong in direct ratio with the strength of the socialist parties. In Austria the outbreak came in April, when his Highness the Archduke Francis Ferdinand became protector of the Austrian Catholic Schools Association. Since Catholicism is the state religion of the dual monarchy, it is difficult to see the basis for the socialist uproar which followed the archduke's act. Dr. Menger, the leader of the German progressivist party in the Reichstag, moved immediately for the repeal of the paragraph of the criminal law which provided for the punishment of any one uttering offensive language toward a member of the imperial family. Without the repeal of the act, he said, it would be impossible for him to express his opinion of the archduke's action. The Prime Minister successfully urged the defeat of the motion.

A further indication of the anticlerical spirit

was given in May in Budapest. The university there is Catholic, but on the ground that it was an institution of the state, the Minister of Public Instruction prohibited the display of the crucifix in the lecture-rooms. The Catholic students thereupon hung wooden crosses on the doors of the lecture-rooms, when the liberal students attempted to tear them down. In the disorderly scenes which ensued considerable injury was done to person and property, but the Catholics, outnumbering their opponents, had the best of the physical argument, and shortly afterward the offensive prohibition was withdrawn.

Italy.—The Quirinal and the Vatican continued during the year their state of armed neutrality, though the House of Deputies and the ministerial branches of the Government kept up their attacks on the Holy See and its supporters. The incident of the College of San Girolamo, ending as it did with Austrian intervention, did not add to the good temper of the Socialist party, which gave vent at different times to curious manifestations of "loyalty." One of these occurred in Messina, where in March a boy from the Salesian elementary school replied to a question set in a Government examination by describing Garibaldi as an adventurer. Two or three days later the Salesians of Messina received a document from the superintendent of studies, informing them that he revoked the authorization granted to the Salesian College to keep open *ginnasio* and elementary schools, and that the facts of the case had been referred to the council of the province for action. The college contained 300 scholars, and it was closed because one of the boys thought Garibaldi an adventurer. A week later, in Luino, a town on Lake Maggiore, the socialist corporation expunged from the catechism all explanation or reference to the tenth commandment of the decalogue, "which is of a nature," it naively explains, "to generate in the minds of the children aversion and contempt for an entire class of persons." The entire class of persons are the socialists, and the tenth commandment forbids the coveting of our neighbor's goods.

As an additional blow to the Vatican, an attempt was made to revive the semidefunct "XX Settembre," the anniversary of the fall of the temporal power. Some thousands of the boys in the Government schools at Rome were to be marshaled outside the walls, and led to a sham assault on the breach. The assault was more of a sham than was anticipated. It had to be given up because only 76 boys attended.

A greater and farther reaching evil, however, was the general dissemination of licentious literature by the socialists during the year. The most private parts of the black theology of St. Alphonsus were published in a Roman paper whose scope and standing are indicated by its name, the *Ass*, with lewd pictures and still lewder letterpress. The *Swan*, another of these publications, was brought before the court at Ancona, and its publication enjoined.

Spain and Portugal.—Anticlericalism was contagious. Nearly every country of Europe became infected with it in the year, except Germany, where it would be *non grata* if only for the reason that it originated in France. In Spain it was confined to licentious attacks upon the clergy, though these were carried to such an extent that the Spanish hierarchy carried to the upper house of the legislature the demands of Catholics generally. The provisions of their demands, which were finally granted, were that the higher grades of education should include an obligatory course of religious and moral lectures; that the liberty

of teaching be established with a view of enabling the religious associations to take part in the education of all classes; that all public demonstrations of the Catholic religion should be permitted, and duly protected; that prelates should be allowed to supervise the education given; and that religious associations should be included in the concordat with Rome in the future.

In Portugal, however, the strife was fiercer and the results less happy. The Portuguese Government in April ordered the Jesuits and other religious orders to leave the country, as the result of a number of anti-Jesuit riots in Oporto and elsewhere. After 10 convents had been closed by the authorities and their occupants expelled, the Government relented, and prescribed conditions under which the orders might become "authorized." Six months was allowed for authorization, expiring Oct. 18. The orders were to hand up a copy of their statutes, and apply for official recognition. Nearly all complied, and when the anti-conventual clamor had died down, the Government announced that it recognized and approved all the orders. This put an end for the time being to the anticlerical agitation in both countries, though signs were not wanting that the socialists would renew their efforts at the earliest opportunity.

Missionary Countries.—The Holy Father, in March, made the following appointments to fill vacancies in the missionary hierarchy: To be Vicar-Apostolic of Aden and Arabia, with residence at Aden, the Rev. Father Chrysostom (John Bigel), O. S. F. C., vice Bishop Lasserre, O. S. F. C., resigned; to be Vicar-Apostolic of South Manchuria, the Rev. Maria Felix Choulet, vice Bishop Guillon, massacred at Mukden last July; to be Vicar-Apostolic of Senegambia (including the British colony of Gambia), the Rev. Father Alphonsus Kunemann, vice Bishop Bulon, deceased. Also his Holiness has erected the mission of the New Hebrides into a prefecture-apostolic, and appointed the Rev. Victor Douceret its first prefect.

By an enactment of the council of the Governor-General, made May 1, native Christians in India were relieved of the inheritance and succession duties with respect to property of those dying intestate, thus placing them on an equality before the law with members of native religions.

Most Rev. Paul Goethals, Archbishop of Calcutta, died July 3.

ROOSEVELT, THEODORE, twenty-sixth President of the United States, born in New York city, Oct. 27, 1858. He was born in his father's house, No. 28 East Twentieth Street. For two hundred and fifty years New York has been the native soil of the Roosevelts. Since they made their beginnings in the colonies, they have been represented frequently in public life. Theodore's boyhood was passed chiefly in the city of his birth. His health was not rugged, and the ordinary games of boys were beyond his strength. Perceiving the necessity for a vigorous constitution, he set himself to the task of getting one. From this purpose he seems never to have swerved, and by the time he was ready to enter Harvard College he had begun to be robust. His energies were directed to bodily exercise, to study, and to all the social advantages that Boston afforded him. Although conspicuous in no single athletic sport, he was energetic in a variety, sparring and horsemanship being among them. His knowledge of sparring, besides the general benefit that it was to him, proved at least upon one later occasion in the West of particular service, and enabled him most successfully to surprise a typical saloon bully who had attempted to take liberties with him. His favorite study was political his-

tory, and he read *The Federalist* with especial interest. He was an editor of the *Harvard Advocate*, in whose columns he published his own opinion in print. Besides politics, he continued an interest in natural history, which had been begun in those boyhood days when he was in search of health, and studied the natural history of the country neighborhood near Oyster Bay. He graduated in 1880, with sufficiently high honors to make him a member of the Phi Beta Kappa society. Upon leaving college he traveled in Europe, and climbed the Matterhorn. On his return he studied law in the office of his uncle, Robert B. Roosevelt. There was a political revolt in his Assembly district, the party in revolt chose him as their candidate, and he was elected. He was the youngest Assemblyman in New York, and was twice reelected, serving the terms of 1882, 1883, and 1884, and becoming the leader of the minority. One of the chief measures in which he played a leading part was abolishing the fees in the office of the register and county clerk. Through an investigation that he originated, it came to light that the county clerk took \$82,000 a year in fees, and that the sheriff pocketed about \$100,000. Through him also was abolished the power of the New York board of aldermen to confirm or reject the mayor's appointments, and he secured the passage of the civil-service reform law of 1884. Besides these achievements he put through the antitenement cigar-factory bill. In 1884 he was sent to the Republican National Convention, where he supported Mr. Edmunds. The same year he joined the National Guard, beginning as lieutenant in the Eighth Regiment, and ending as captain. His service in the militia extended over four years. In 1884 Mr. Roosevelt declined to join that movement of Republicans which elected Mr. Cleveland, thereby incurring the enmity of some of his former friends. He now returned to the West, and became a ranchman at Medora on the Little Missouri. His experiences in the Rocky mountains made a picturesque episode in his life, and added to his knowledge and his love of the American people. From these years he also drew the inspiration and the material for his books about Western life. Mr. Roosevelt returned to the East in 1886 and became a candidate for mayor of New York. He had accepted an independent nomination, and was accepted by the Republican party. He was defeated by Mr. Hewitt, but he polled relatively a larger vote than any Republican candidate up to that time. In 1889 he was appointed by President Harrison a member of the United States Civil-Service Commission. Mr. Roosevelt added 20,000 places to the scope of the reform law, and so admirable was his work altogether that President Harrison has said of it: "If he had no other record than his service as an employee of the Civil-Service Commission, he would be deserving of the nation's gratitude and confidence." Mr. Cleveland, on succeeding Mr. Harrison as President, retained Roosevelt, and thus his work continued until May 1, 1895, when he resigned to become president of the police board of New York city. Here he set himself to the cleaning of the corruption and the blackmail with which he found the department rotten. His measures produced the natural outcry of rage from the politicians, with whose pockets he began materially to interfere, and his enforcement of the excise law was for a while looked upon unfavorably by many of his friends. His midnight visits to all sorts of streets and haunts, in order that he might be able to see how his orders were being carried out, came to be liked more than they were feared;

while his instant recognition and rewarding of any bravery shown by a policeman in the course of duty still more endeared him to the force. On April 6, 1897, he was again called to Washington, this time to serve as Assistant Secretary of the Navy, and in this office he spent one year and one month. On May 6, 1898, he resigned the office, to take active service in the war with Spain. With Leonard Wood as colonel and himself as lieutenant-colonel, the First Cavalry Regiment of United States Volunteers was organized. Owing partly to the unusual and picturesque *personnel* of the enlisted men, comprising young fellows from Newport and cowboys from the West, this regiment, popularly known as Rough Riders, became one of



THEODORE ROOSEVELT'S HOUSE AT OYSTER BAY.

the best known in the war. They had a brilliant part in the battle of San Juan Hill. In that year he received the Republican nomination for Governor of New York, and was elected by a plurality of 17,786. In 1900 he was nominated and elected Vice-President on the ticket with Mr. McKinley. On Friday, Sept. 6, 1901, President McKinley was shot at Buffalo; he died on Saturday, the 14th of the same month. At Buffalo, that day, at the residence of Mr. Wilcox, Elihu Root, Secretary of War, requested, for reasons of weight connected with the administration of the Government, that Mr. Roosevelt take the oath as President at once. Mr. Roosevelt replied: "I shall take the oath of office in obedience to your request, sir, and in doing so it shall be my aim to continue absolutely unbroken the policy of President McKinley, which has given peace, prosperity, and honor to our beloved country." In the presence of all the Cabinet, save the Secretary of State and the Secretary of the Navy, the oath was taken, Judge Hazel of the United States district court administering it. The new President hereupon said: "In order to help me keep the promise I have taken, I would ask all the Cabinet to retain their positions at least for some months to come. I shall rely upon you, gentlemen, upon your loyalty and fidelity, to help me." A few days later, in Washington, President Roosevelt made clear his desire that no changes should occur in the Cabinet. The same day that he took the oath, President Roosevelt issued the following:

"MILBURN HOUSE, BUFFALO, Sept. 11, 1901.

"By the President of the United States, A Proclamation:

"A terrible bereavement has befallen our people. The President of the United States has been struck down; a crime committed not only against the chief magistrate but against every law-abiding and liberty-loving citizen. President McKinley crowned a life of largest love for his

fellow men, of most earnest endeavor for their welfare, by a death of Christian fortitude; and both the way in which he lived his life and the way in which, in the supreme hour of trial, he met his death will remain forever a precious heritage of our people. It is meet that we, as a nation, express our abiding love and reverence for his life, our deep sorrow for his untimely death.

"Now, therefore, I, Theodore Roosevelt, President of the United States of America, do appoint Thursday next, Sept. 19th, the day in which the body of the dead President will be laid in its last earthly resting-place, as a day of mourning and prayer throughout the United States. I earnestly recommend all the people to assemble on that day in their respective places of divine worship, there to bow down in submission to the will of Almighty God, and pay out of full hearts their homage of love and reverence to the great and good President, whose death has smitten the nation with bitter grief."

His acts as President belong to the history of the country, and will be recorded in other articles in this work. At the Yale Bicentennial, in October, 1901, he received the degree of LL. D. His published writings are: *The Naval War of 1812* (2 vols., 1882); *Hunting Trips of a Ranchman* (1885); *Thomas Hart Benton* (1887); *Gouverneur Morris* (1888); *Essays on Practical Politics* (1888); *Ranch Life and the Hunting Trail* (1888); *The Winning of the West* (4 vols., 1889-1896); *Brief History of New York City* (1891); *The Wilderness Hunter* (1893); *American Ideals, and Other Essays* (1897); *The Rough Riders* (1899); *Oliver Cromwell* (1900); and *The Strenuous Life* (1901); besides occasional articles contributed to other volumes, or to periodicals.

In 1881 Mr. Roosevelt married Miss Alice Lee, of Boston. After being a widower several years he married Miss Edith Kermit Carow. He is the father of six children, the eldest being the daughter of his first wife.

He is a member of the following organizations: Union League Club, Republican Club, Harvard Club, St. Nicholas Society, Naval and Military Order of the Spanish-American War, Holland Society, Seawanhaka Corinthian Yacht Club, Century Association, New York Genealogical and Biographical Society, and D. K. E. college fraternity.

ROUMANIA, a kingdom in eastern Europe. The legislative power is vested in a Senate of 120 members, elected for eight years, and a Chamber of Deputies containing 183 members, elected for four years. The reigning King is Carol I, born April 20, 1830, a son of Prince Karl of Hohenzollern-Sigmaringen, elected Domn of Roumania in 1866 and proclaimed King on March 26, 1881. The Cabinet formed on July 20, 1900, was composed at the beginning of 1901 of the following members: President of the Council and Minister of Finance, P. P. Carp; Minister of Justice, T. Maioresco; Minister of Foreign Affairs, A. Marghiloman; Minister of War, Gen. J. Lahovary; Minister of the Interior, C. Onalesco; Minister of Public Instruction and Worship, Constantin C. Arion; Minister of Agriculture, Industry, Commerce, and Domains, Nicolas Filipesco.

Area and Population.—The area of the kingdom is estimated at 50,720 square miles. The population, according to the provisional results of the census of December, 1899, was 5,912,520, consisting of 2,994,896 males and 2,917,624 females. There were 5,469,036 Roumanians, 171,063 foreigners, and 272,421 inhabitants not under foreign protection. The number of marriages in 1899 was 50,033; of births, 250,318; of deaths, 164,900; ex-

cess of births, 85,418. The population of Bucharest, the capital, was 282,071; of Jassy, 78,067; of Galatz, 62,678; of Braila, 58,392. Although education is free and compulsory by law, schools have not been provided in many places. In 1899 only 11.6 per cent. of the population could read and write. The University of Bucharest in 1900 had 81 professors and 2,210 students, and the University of Jassy had 33 professors and 420 students.

Finances.—The revenue was estimated for the financial year 1900 at 228,376,000 lei, or francs, and expenditure at the same figure. For 1901 the revenue was estimated to reach 245,325,400 lei, and expenditure was estimated at 238,278,376 lei. The budget estimate of revenue for 1902 was 227,203,000 lei, of which 46,570,000 lei came from direct taxes, 59,710,000 lei from indirect taxes, 55,930,000 lei from monopolies, 23,363,000 lei from the Ministry of Agriculture, Commerce, and Domains; 17,220,000 lei from the Ministry of Public Works, 10,185,000 lei from the Ministry of the Interior, 3,679,000 lei from the Ministry of Finance, 1,253,000 lei from the Ministry of War, 600,000 lei from the Ministry of Public Instruction and Worship, 202,000 lei from the Ministry of Foreign Affairs, 431,000 lei from the Ministry of Justice, and 8,060,000 lei from various sources. The expenditure for 1902 was estimated by the Minister of Finance at the same figure as the revenue, 227,203,000 lei, of which the charges of the public debt absorb 91,270,238 lei, the Council of Ministers, 64,628 lei, the Ministry of War 41,560,609 lei, the Ministry of Finance 31,195,666 lei, the Ministry of Worship and Public Instruction 23,451,251 lei, the Ministry of the Interior 16,772,237 lei, the Ministry of Public Works 5,020,824 lei, the Ministry of Justice 6,124,030 lei, the Ministry of Agriculture, Commerce, and Domains 5,940,190 lei, the Ministry of Foreign Affairs 1,692,820 lei, and supplementary credits 1,100,317 lei.

The public debt amounted on March 31, 1900, to 1,451,497,307 lei, more than half of which is represented by railroads and other profitable public works, and the rest to cover deficits. A new loan of 15,000,000 lei was arranged in 1900 with a syndicate that obtained a concession of the monopoly in cigarette paper. The Government arranged to part with its shares of stock in the National Bank. The circulation of notes of the bank at the beginning of 1901 was 121,730,000 lei, and the cash on hand 50,875,000 lei. The gold coined by the Roumanian mint since 1867 has been 3,805,800 lei; silver, 82,700,000 lei in nominal value; bronze, 5,345,000 lei. No gold had been coined since 1884, nor silver since 1894, when it was decided in 1901 to begin a new coinage. The bank in purchasing the Government holdings, which amounted to 4,000,000 lei, one-fifth of the total stock, obtained a prolongation of its charter, which would expire in 1912, to 1920, on condition that the share of the state in the net profits shall be 30 instead of 20 per cent. The act sanctioning the transfer of the stock to the bank was passed by the Chamber on Feb. 5, 1901.

The Army.—Every Roumanian at the age of twenty-one draws lots to determine whether he shall enter the permanent army or the territorial infantry or cavalry. The peace strength of the permanent army is 3,280 officers and 60,000 men, with 11,930 horses and 390 guns. The strength of the territorial army is about 72,000 men, with 7,500 horses, in time of peace, and 168,000 men, with 32,604 horses, in war. The period of active service is three years in the permanent army and five years in the territorial army, and the members of both remain in their respective reserves until they are thirty years old.

The Roumanian navy is gradually being strengthened. The English-built cruiser *Elisabeta* has a displacement of 1,320 tons, a beam of armor $3\frac{1}{2}$ inches thick, and an armament consisting of 4 6-inch and 8 rapid-fire guns. Other vessels are a training ship, 7 gunboats, 6 coast guards, and 6 first-class and 2 second-class torpedo boats. Four armored vessels will be built in Roumania.

Commerce and Production.—Corn was planted on 2,025,058 hectares in 1900, wheat on 1,830,980 hectares, barley on 439,735 hectares, oats on 254,831 hectares, and rye on 164,299 hectares, while vineyards occupied 148,046 hectares, prunes 69,972 hectares, and tobacco 4,220 hectares. The wheat-crop in the same year was 19,897,406 hectoliters, the crop of barley 5,136,201 hectoliters, the crop of oats 3,060,172 hectoliters, that of rye 2,109,924 hectoliters. The crop of corn in 1899 was 9,768,700 hectoliters, the tobacco-crop was 11,951 quintals, the wine production 2,060,817 hectoliters, and the yield of prunes 2,067,731 hectoliters. Colza was planted on 248,434 hectares in 1900, yielding 2,715,303 hectoliters; flaxseed was grown on 13,240 hectares, yielding 91,567 hectoliters; and the production on 4,966 hectares sown to hemp in 1899 was 10,703 quintals of fiber and 26,111 hectoliters of seed. There were 643,770 hectares of grass, producing 6,473,000 quintals of hay. The area of the Government forests is 921,664 hectares, and their annual product is worth 2,338,310 lei. The total area of forests is 2,774,048 hectares. There were 670,909 horses, 2,138,315 cattle, 6,847,825 sheep, and 1,079,312 hogs in 1897. Coal is mined and an inferior quality of petroleum is obtained. The Government possesses salt-mines, which are worked by convict labor. Various ores and minerals are found in the Carpathians, and in 1895 the mining laws were changed so as to admit foreign capital.

The total value of imports in 1899 was 333,267,938 lei, and of exports 149,119,657 lei. The imports of cereals were 9,388,910 lei, and exports 97,116,900 lei; imports of textiles 130,987,296 lei, and exports 4,347,433 lei; imports of metals and metal manufactures 76,366,291 lei, and exports 4,163,556 lei; imports of hides and leather 11,400,162 lei, and exports 2,660,753 lei; imports of mineral fuel 9,034,742 lei, and exports 8,197,096 lei; imports of minerals, glass, and pottery 8,166,113 lei, and exports 280,835 lei; imports of oil, wax, etc., 6,397,048 lei, and exports 47,187 lei; imports of colonial products 19,110,594 lei, and exports 17,938 lei; imports of fruit 4,530,553 lei, and exports 6,105,422 lei; imports of animal products 4,815,148 lei, and exports 6,885,682 lei; imports of live animals 2,131,679 lei, and exports 4,270,437 lei; imports of chemicals 11,367,995 lei, and exports 2,176,975 lei; imports of dyes and colors 4,498,093 lei, and exports 167,355 lei; imports of wood and timber 4,244,891 lei, and exports 8,114,372 lei; imports of paper 6,587,354 lei, and exports 130,347 lei; imports of drugs 5,299,515 lei, and exports 37,713 lei. The values in lei of imports from and exports to the principal foreign countries in 1899 are given in the following table:

COUNTRIES.	Imports.	Exports.
Austria-Hungary	95,671,659	38,443,995
Germany	91,065,175	9,669,738
Great Britain	60,041,587	10,568,793
Belgium	10,502,804	44,113,742
Italy	16,457,278	11,264,723
France	22,164,962	5,600,965
Turkey	13,310,080	13,585,072
Russia	7,292,600	5,895,030
Netherlands	4,623,726	4,359,405
Bulgaria	4,070,025	3,329,929
Switzerland	3,683,249	10,700
United States	1,776,710	41,273

Navigation.—There were 26,246 vessels, of 5,701,177 tons, entered at Roumanian ports during 1899, and 25,876, of 5,200,487 tons, were cleared. The merchant marine consisted of 382 vessels in 1899, of 69,072 tons, and of these 55, of 12,785 tons, were steamers. The number of vessels cleared from the Sulina mouth of the Danube in 1899 was 1,056, of 1,070,367 tons.

Railroads, Posts, and Telegraphs.—There were 1,932 miles of railroad belonging to the Government in 1900, and 432 miles were being constructed or surveyed. The gross receipts in 1899 were 46,197,750 lei, and the operating expenses 37,500,000 lei. The total capital expenditure was 717,627,000 lei.

The number of letters that passed through the post-office in 1899 was 12,566,288; of postal cards, 8,273,018; of newspapers, etc., 29,220,893.

The length of telegraph-lines in 1899 was 4,300 miles, with 11,100 miles of wire. The number of messages transmitted in that year was 2,238,049. There were 885 miles of telephone-lines and 3,310 miles of wire. The number of conversations in 1899 was 913,046.

Political Events.—The Chamber and Senate in the beginning of January, 1901, agreed to a commercial convention that had been made with Greece containing a favored-nation clause which after April 1, 1903, can be terminated in nine months on notice being given by either party. Commercial treaty relations between the two countries were broken off in 1887 in consequence of a controversy over the will of a wealthy man named Zappa. Since then Greek products have paid under the general tariff an average duty of 10 per cent. on entering Roumania, while Roumanian goods under the Greek general tariff have paid from 30 to 145 per cent. *ad valorem* to be admitted into the Greek market, to the decided disadvantage of the Roumanian milling and timber interests. Under the new treaty Roumania has the advantage in trade, as Greek imports into Roumania are small, and in compensation the Roumanian Government grants to Greek educational and religious establishments in Roumania the rights of corporate bodies, provided these rights are exercised subject to Roumanian laws, but such corporations are not allowed to hold real estate in Roumania.

The program of financial reform proposed by the Government was rejected by the Chamber, and consequently on Feb. 8 the Carp Cabinet tendered its resignation to the King, who on Feb. 9 commissioned Cantacuzene to form a new ministry. The Conservatives had still a majority in Parliament. After the defeat of the Cantacuzene Cabinet in July, 1900, it was believed that the new combination brought about by Carp would be able to carry through the financial measures which, although exceedingly unpopular, appeared to be the only means of extricating the Government from the financial difficulties in which it had been floundering for several years. Carp, however, soon found himself at odds with a section of the majority, and the Committee of the Chamber appointed to study the question of new taxation condemned the ministerial plan. The problems to be solved were to restore the equilibrium in the finances without crushing the people with fresh imposts, to introduce indispensable economic reforms, and to put an end to the odious persecution of the Jews. The crisis had been brought about by the action of the Old Conservatives under Cantacuzene, with whom the group of Tony Jonesco acted in concert, in practically renouncing the compact existing with the Junimists, or Young Conservatives, of whom Carp was

the leader. The unpopularity of the proposed new taxes and of the disposal by the Government of state property was the chief cause of the dissensions among the Conservatives. The Liberals under Sturdza at the same time profited by the popular discontent over heavier taxation and started a vigorous agitation in the country, denouncing the Government especially for alienating the property of the state. Cantacuzene was unable to form a ministry, and two sections of the Conservative party, being confronted with the prospect of a Liberal *régime* under Sturdza, concluded to make up their differences. On Feb. 13 Carp withdrew his resignation and resumed the direction of the administration on the understanding that the Government scheme of taxation would be approved by the Chamber. This expectation was not realized. The committee of the Chamber again condemned the tax scheme, and on Feb. 26 Carp once more tendered the resignation of the Cabinet to the King after the Chamber by 75 votes to 74 had rejected his financial policy. Sturdza formed a Cabinet on Feb. 27, as follows: President of the Council, Minister of Foreign Affairs, and Minister of War *ad interim*, Demeter Sturdza; Minister of the Interior, M. Aurelian; Minister of Justice, C. J. Stoicesco; Minister of Public Works, Joan Bratiano; Minister of Public Instruction, Spiro Haret; Minister of Finance, G. D. Palladi; Minister of Domains, M. Missir. The formation of a Liberal ministry entailed the dissolution of the Chamber and the election of a new one. Sturdza pronounced against new taxation and proposed to bring about the equilibrium of the budget by various economies amounting to 20,000,000 lei. If these should not suffice he would consent to increase taxation to the extent of 5,000,000 lei, whereas Carp had proposed a comparatively slight reduction of expenditure and the imposition of several new taxes calculated to produce a surplus of 6,000,000 or 7,000,000 lei. The Old Conservatives objected to some of the proposed imposts, especially to a tax on licenses for professions. The harmony which was apparently reestablished was broken again when Carp, replying to complaints raised by Sturdza against the Old Conservatives for having practised obstruction when he was Prime Minister in the last Liberal Cabinet, declined to accept responsibility for their past conduct. Parliament was dissolved on March 1, and the elections began on March 26. The new Chambers met on April 6. The new Minister of Finance made the budget balance at 218,500,000 lei, reducing expenditures from 245,325,000 lei in the previous year. Retrenchments amounting to 25,000,000 lei were effected by cutting down salaries and pensions and reducing expenses in all the departments. Every one had to sacrifice something. The King voluntarily surrendered a proportionate share of the civil list. The war budget was cut down 5,600,000 lei, which caused 12 generals on the active list to resign. No new taxation was proposed, but existing taxes were increased so as to produce 6,000,000 lei more. The session was closed on April 10, immediately after the adoption of the budget. An extraordinary session of Parliament was opened on June 27, the object of which was the settlement of several questions touching the situation and the defenses of the country, the amendment of the public instruction law, and the ratification of the extradition treaty with Austria. Extraordinary credits amounting to 72,500,000 lei were voted by the Chamber, but annulled by the Senate. The interest on the public debt was met out of the ordinary revenue. Among the retrenchments which the Government decided upon was the reduction

of the annual grant to the Roumanian schools in Macedonia from 400,000 lei to 215,000 lei, the Cantacuzene ministry having in 1899 reduced it to the former figure from 500,000 lei, to which it had grown from the original modest subsidy of 10,000 lei. Apart from motives of economy, the relaxation of the Roumanian propaganda in Macedonia and Epirus emphasized the good understanding that had been established with Greece, in sign of which King Carol had a meeting at Abbazia in Austria with the King of the Hellenes in May. The Vlachs in Turkey were as thoroughly Hellenized as any of the Christian races before an active propaganda was begun to reattach them in thought and language to their nationality in Roumania. The *entente* with Greece was confirmed by a visit of Roumanian students to Athens. Negotiations for a new commercial treaty with Turkey were begun in April. The crops in 1901 were disappointing, being below the average, but maize turned out to be a good crop, and a profitable one on account of the short crop in the United States. The financial year closed with a deficit of about 30,000,000 lei. Of the loan of 175,000,000 lei contracted by the Cantacuzene ministry, realizing 156,000,000 lei, 137,000,000 lei only had been expended, leaving 19,000,000 lei to cover the expense of the public works in progress, which was a sufficient sum.

RUSSIA, an empire in northern Europe and Asia. The throne is hereditary in the dynasty of Romanoff-Holstein-Gottorp. The legislative, executive, and judicial powers are vested in the Emperor, called the Czar, who is assisted by a Cabinet of Ministers, each of whom has charge of an executive department; by a Council of State, which examines and passes upon projects of legislation submitted by the ministers; by a Ruling Senate, which watches over the judicial administration; and by a Holy Synod, which directs ecclesiastical affairs.

The reigning Emperor is Nicholas II, born May 18, 1868, who succeeded his father, Alexander III, on Nov. 1, 1894. The heir presumptive is the Grand-Duke Michael, brother of the Czar, born Dec. 4, 1878. The members of the Committee of Ministers at the beginning of 1901 were as follows: Minister of the Imperial House and Imperial Domains, Gen. W. Friedericksz; Minister of Foreign Affairs, Count Lamsdorff, appointed in 1900; Minister of War, Gen. Kuropatkin; Minister of the Navy, Vice-Admiral P. P. Tyrtoff; Minister of the Interior, M. Sipyaghin, appointed in 1899; Minister of Public Instruction, M. Bogolepoff; Minister of Finance, S. J. Witte; Minister of Justice, N. V. Muravieff; Minister of Agriculture and State Domains, A. S. Yermoloff; Minister of Ways and Communications, Prince M. J. Khilkoff; Comptroller-General of the Empire, Lieut.-Gen. Lobko; State Secretary for Finland, W. K. de Plehwe; Procurator-General of the Holy Synod, K. P. Pobedonostseff; President of the Committee of Ministers, J. N. Durnovo. The Grand-Dukes Vladimir Alexandrovich, Alexis Alexandrovich, and Michael Nicolaievich are members of the Committee of Ministers, as are also M. Frisch, president of the Department of Legislation; M. Solsky, president of the Department of State Economy; and M. Selifontoff, president of the Department of Civil and Ecclesiastical Affairs in the Council of State; and Privy-Councilor T. J. Philippoff. Peter Vannovsky succeeded M. Bogolepoff as Minister of Public Instruction on April 7, 1901.

Area and Population.—The area of the Russian Empire is 8,447,234 square miles, exclusive of 293,018 square miles of internal waters. Accord-

ing to the census of 1897 the total population in that year was 128,932,173, of whom 106,154,607 were in European Russia, including Finland and Poland, and 22,697,469 in the Asiatic dominions. There were 46,447,963 males and 47,767,452 females in European Russia, 4,764,007 males and 4,691,936 females in Poland, 4,891,054 males and 4,357,641 females in the Caucasus, 2,954,559 males and 2,772,531 females in Siberia, and 4,158,980 males and 3,562,704 females in Central Asia. A partial enumeration of the Jews of the western and southwestern provinces indicates that they constitute over 11 per cent. of the town population, in Odessa as much as 35 per cent., and about 11 per cent. of all the population of Poland, their total number exceeding 4,000,000. The number of marriages in European Russia in 1896 was 809,847; of births, 4,634,809; of deaths, 3,063,047; excess of births, 1,571,762. The birth-rate shown in that year was 47.2 per mille in European Russia and Poland, 46.5 in Siberia, 37 in the Caucasus, and 33.3 in Finland; death-rate, 32.5 in Siberia, 31.8 in European Russia and Poland, 21.2 in the Caucasus, and 19.5 in Finland. The net emigration of Russians from 1856 to 1888 was 1,146,052, and during that period there was a net immigration of foreigners into Russia of 2,304,717. In recent years the Russian emigrants, including Jews, exceed the foreign immigrants. The immigration of Russians into the United States from 1873 to 1897 was 722,472. In 1898 the number of passengers and emigrants who entered Russia was 4,051,684, and the number who departed was 4,066,757. The cities with over 75,000 population were: St. Petersburg, 1,267,023; Moscow, 988,614; Warsaw, 638,209; Odessa, 405,041; Lodz, 315,209; Riga, 256,197; Kiev, 247,432; Kharkov, 174,846; Vilna, 159,568; Saratov, 137,109; Kazan, 131,508; Ekaterinslav, 121,216; Rostov, 119,889; Astrachan, 113,001; Tula, 111,048; Kishinev, 108,796; Nizhni Novgorod, 95,124; Nikolaiev, 92,060; Samara, 91,672; Minsk, 91,494; Voronezh, 84,146.

Finances.—The ordinary revenue for 1899 was 1,673,313,062 rubles, and expenditure 1,468,221,000 rubles, leaving a surplus of 205,090,062 rubles. The extraordinary revenue was 179,202,000 rubles, and the extraordinary expenditure 318,730,000 rubles. Since 1894 only money raised by loans and deposits in the imperial bank are classed as extraordinary receipts, military contributions from Turkey and Khiva having been transferred to the ordinary revenue; and expenditure on state railroads, except the building of new lines, and on harbors, and for the rearmament of the army and the accumulation of reserves of food, are now classed as ordinary expenditures. The revenue has increased 76 per cent. in ten years, the increase being due largely to receipts from the railroads acquired by the Government, which receipts were 347,529,144 rubles in 1899, against 49,318,360 rubles in 1890, the revenue of the Government from private railroads having on the other hand declined in this time from 38,747,012 rubles to 10,641,104 rubles. The Government monopoly of the sale of spirits is another new source of revenue, yielding 10,837,937 rubles in 1895, when it was first introduced, and 110,755,669 rubles in 1899. The import duties have been adjusted so as to produce a third larger accession of revenue, realizing 219,276,055 rubles in 1899, against 142,160,527 rubles in 1890. The receipts from excise, domains, monopolies, and taxation, both direct and indirect, have all increased. The yield of direct taxes in 1899 was 43,543,000 rubles from land and forests, 61,073,000 rubles from trade licenses, and 16,730,000 from the tax of 5

per cent. on incomes from capital; indirect taxes, 310,297,000 rubles from excise on spirits, 38,893,000 rubles from tobacco, 67,523,000 rubles from sugar, 33,009,000 rubles from naphtha, matches, and other excisable articles, and 219,276,000 rubles from customs; of duties, 39,322,000 rubles from stamps, 30,391,000 rubles from transfer duties, and 26,542,000 rubles from passports, railroad taxes, etc; of monopolies, 4,271,000 rubles from mines, 15,418,000 rubles from the mint, 28,793,000 rubles from the post-office, 18,276,000 rubles from telegraphs and telephones, and 110,756,000 rubles from the sale of spirits; of Government domains, 16,664,000 rubles from rent, 48,108,000 rubles from forests, 347,529,000 rubles from railroads, 12,103,000 rubles from Government mines, 13,852,000 rubles from capital and banking, and 1,812,000 rubles from private railroads; of sales of domains, 1,191,000 rubles; of redemption of land, 40,552,000 rubles from liberated serfs and 54,945,000 rubles from Crown peasants; of miscellaneous sources, 8,830,000 rubles from railroad debts, 33,561,000 rubles from Crown debts, 16,614,000 rubles from municipalities, 6,195,000 rubles from military contributions, and 7,549,000 rubles from various sources. The expenditure in 1899 for the public debt was 275,755,000 rubles, of which 107,633,000 rubles were for railroad debt; for the Ministry of War, 333,579,000 rubles, including 5,230,000 rubles for the Transcasian Railroad; for the Ministry of Finance, 237,233,000 rubles, including 9,150,000 rubles for the introduction and extension of the Government monopoly of the sale of spirits, 76,239,000 rubles for expenses of the sale of spirits, and 1,000,000 rubles for loans to railroad companies, etc; for Ministry of Ways and Communications, 288,187,000 rubles, including 206,950,000 rubles for the operation of the Government railroads and 43,767,000 rubles for new feeding lines and extensions; for the Comptroller-General, 7,383,000 rubles, of which 3,631,000 rubles were for railroads; for the higher institutions of the state, 3,193,000 rubles; for the Holy Synod, 21,247,000 rubles; for the Ministry of the Imperial House, 12,984,000 rubles; for the Ministry of Foreign Affairs, 5,537,000 rubles; for the Ministry of the Navy, 83,612,000 rubles; for the Ministry of Agriculture and State Domains, 37,157,000 rubles; for the Ministry of the Interior, 81,633,000 rubles; for the Ministry of Public Instruction, 29,127,000 rubles; for the Ministry of Justice, 44,829,000 rubles; for the Government studs, 2,117,000 rubles. The expenditure due to railroads, not including extraordinary expenditure on new lines, amounted in 1899 to 358,211,866 rubles. The extraordinary revenue in 1899 was 178,779,000 rubles from loans, 2,895,000 rubles of perpetual deposits at the Bank of Russia, and various other receipts which make the total 183,849,000 rubles. The extraordinary expenditures were 102,508,000 rubles for building new railroads and purchasing rolling-stock, 150,175,000 rubles for the conversion of the debt, 5,600,000 rubles for assistance to the population in famine, and 63,251,000 rubles for the state bank, etc., making the total 321,534,000 rubles. There was an excess of the total receipts, ordinary and extraordinary, over expenditures in 1899 amounting to 84,104,802 rubles. For the ten years ending with 1899 there was a surplus every year of the ordinary revenue over expenditure while the excesses of extraordinary expenditures over receipts amounted for the whole period to 1,324,250,051 rubles, a deficit more than covered by the accumulated surplus of 1,361,609,709 rubles in the ordinary budget, which left a net surplus of 37,359,658 rubles.

The estimates of revenue for 1900 were 120,365,517 rubles from direct taxes, 641,142,300 rubles from indirect taxes, 84,802,850 rubles from stamps, 173,687,800 rubles from royalties, 422,748,423 rubles from railroads and domains, 578,139 rubles from sales of domains, 77,717,000 rubles from redemption of lands, 66,941,018 rubles from reimbursement of railroad and other loans, and 5,762,633 rubles of miscellaneous receipts; total ordinary revenue, 1,593,745,680 rubles. For 1901 the estimates were 127,172,905 rubles from direct and 652,310,800 rubles from indirect taxes, 88,916,724 rubles from stamps, 227,999,900 rubles from royalties, 465,335,362 rubles from domains, 573,291 rubles from sales of domains, 88,906,500 rubles from land redemption, 72,917,197 rubles from reimbursement of loans, and 5,963,327 rubles from various sources; total ordinary revenue, 1,730,096,006 rubles. The total ordinary expenditure was estimated at 1,608,199,771 rubles for 1900 and 1,656,652,556 rubles for 1901. To balance the budget and meet extraordinary expenditure, calculated at 149,187,332 rubles in 1900 and 131,829,450 rubles in 1901, the sum of 160,641,423 rubles must be found in 1900 and 56,886,000 rubles in 1901. The extraordinary expenditures are 25,195,258 rubles on the Siberian Railroad and 3,418,524 rubles on works connected with it in 1900 and 7,277,269 rubles on the railroad and 3,078,131 rubles on works connected with it in 1901, 30,573,550 rubles on other railroads in 1900 and 31,974,050 rubles in 1901, 85,000,000 rubles for loans to private railroads in 1900 and 82,000,000 rubles in 1901, and 5,000,000 rubles for propination in 1900 and 7,500,000 rubles in 1901.

The budget estimates for 1901 balance with a total of 1,788,482,006 rubles, of which 131,829,450 rubles are for extraordinary expenditure. Every Russian budget since 1888 has shown a large surplus of ordinary receipts over expenditures, and in this one the predicted surplus is the largest that has appeared, amounting to 273,443,450 rubles. The greatest increase of revenue under any one head is 51,000,000 rubles in receipts from the spirit monopoly, which is to be introduced in 21 more provinces and territories. The next largest increase is in Government railroads, including the newly opened Transbaikalian line in Siberia and the Murghab branch of the Transcasian line to the frontier of Afghanistan. In customs a decrease of 21,000,000 rubles was foreseen, which was attributed to the development of native industries and the cessation in the construction of new works and the importation of machinery. The excess of 56,886,000 rubles in extraordinary expenditures over receipts is provided for out of the reserve resources of the treasury, the free balance, which is thereby reduced from 123,000,000 rubles to about 66,000,000 rubles. The extraordinary and additional expenditure covered by this reserve fund in 1900 was 160,000,000 rubles for the extraordinary outlay provided in the budget and 62,000,000 rubles on account of the crisis in the far East. The credits granted in 1900 and 1901 do not represent the whole of the expense caused by the Chinese complications, and the material damage caused by the Chinese outbreak of 1900 are far greater, including losses sustained by the Eastern Chinese Railroad, by trade and industry, by the money market, and in consequence of the withdrawal of the laboring population from productive occupations. The depressed condition of industry and the embarrassed state of the money market at home and abroad made it difficult to compile a budget in which the expense of putting on a war footing 200,000 troops and transporting many of them over enormous

distances was provided for without recourse to a loan. It was done by keeping down expenditures, which have increased in the last six years at the rate of 125,000,000 rubles a year. Notwithstanding various retrenchments, the increase shown in the budget of 1901 was still large. The increase in naval estimates was kept down to 6,000,000 rubles by postponing construction. The normal credit for the navy was increased 10,000,000 rubles by a decree issued in August, 1900. The loans to private railroads on the security of their bonds include a large advance to the Chinese Eastern Railroad Company for the restoration of the line through Manchuria. The stock of gold in Russia was diminished 74,000,000 rubles in 1900 owing to stringency in the international money markets, the troubles in China, etc. The amount of gold in the treasury and in circulation at the end of that year was still 1,492,000,000 rubles, exceeding the amount of paper in circulation by 225,500,000 rubles.

The state debt was increased in the ten years between 1890 and 1900 by 893,971,568 rubles and the annual amount of interest to be paid by 35,485,584 rubles, but annuities decreased in the decade by 15,894,520 rubles and the increase in the annual debt charge was only 19,591,064 rubles, or 2.2 per cent. The conversion or redemption was effected between 1889 and 1899 of 75,000,000 rubles paying 6 per cent., 65,174,900 rubles paying 5½ per cent., 2,723,983,616 rubles paying 5 per cent., 346,462,107 rubles paying 4½ per cent., 43,447,300 rubles paying 4 per cent., and 571,326,901 rubles of treasury obligations, making a total of 3,825,394,833 rubles. The cost of conversion and redemption operations was 72,724,063 rubles. New loans were concluded at 4 per cent. for the nominal amount of 3,198,531,806 rubles, of which the Government received 2,964,951,171 rubles, the cost of emission being 212,051,063 rubles. The state debt on Jan. 1, 1900, consisted of 534,912,750 rubles of 3 per cent., 148,382,812 rubles of 3½ per cent., 61,516,000 rubles of 3.79 per cent., 85,247,400 rubles of 3.80 per cent., 2,316,663,229 rubles of 4 per cent., 247,370,000 rubles of 4½ per cent., 151,851,500 rubles of 5 per cent., and 32,859,315 rubles of other loans, making the total loans 3,578,803,007 rubles, and of treasury bonds bearing from 3 to 6 per cent. interest the sum of 2,646,292,984 rubles; total debt, 6,225,095,992 rubles. The cash in the treasury on Jan. 1, 1900, was 216,727,000 rubles. The debts due to the Government at the same date were 252,886,063 rubles of military obligations, 255,648,137 rubles from railroads, 1,486,017,970 rubles from peasants for redemption of lands, 106,493,507 rubles from local treasuries, 122,894,029 rubles from the nobles' land bank, and 164,724,722 rubles from various debtors; total, 2,388,664,431 rubles. The funds in the treasury for famine relief, pensions, and other purposes amounted to the additional sum of 375,410,489 rubles.

The amount of paper currency in circulation in January, 1901, was 630,000,000 rubles; amount of gold in the treasury and bank, 1,492,300,000 rubles; amount of silver, 222,800,000 rubles. Interest on Russian *rentes* is subject to a coupon tax of 5 per cent. The large loans raised in recent years have been taken mainly in France. On Dec. 17, 1900, an imperial ukase was issued decreeing that foreigners not domiciled in Russia who hold Russian Government securities shall receive the full interest, without the deduction of 5 per cent. for the coupon tax. On May 12 the Minister of Finance announced a loan of 424,000,000 francs at 4 per cent. in order to replace in the imperial treasury the sums spent in 1900

in advances to railroad companies and to provide for similar advances in 1901. These bonds can not be redeemed before 1916 and are exempt from all duties and taxes imposed by the Russian Government. The loan was readily taken in Paris, the issue price being 98½.

The Army.—The active army on the peace footing is estimated at 42,000 officers and 1,000,000 men. The war strength of Russia is supposed to be at least 75,000 officers and 4,500,000 men. Infantry regiments, having in time of peace a normal strength of 70 officers and 1,867 men, can be raised in war to 79 officers and 3,945 men; cavalry regiments from 32 officers and 779 men with 585 horses, have in war 30 officers and 673 men with 676 horses; heavy field-batteries from 207 to 259, light ones from 179 to 227, and mountain batteries from 149 to 301 men, the 4 guns in peace being increased to 8 for every field-battery. The empire is divided into 13 military districts, the army into 31 corps. There is 1 corps of guards and 1 of grenadiers; 2 corps are in the Caucasus district, 2 in the district of Turkestan, a corps is in the Irkutsk, and 1 in the Amur district of Siberia; there are 2 cavalry corps; and the army corps are distributed in the districts of St. Petersburg, Finland, Vilna, Warsaw, Kiev, Odessa, Moscow, Kazan, and the Don. There are 52 infantry divisions and 23 brigades and 1 battalion of rifles, besides 8 rifle battalions in Finland; 25 divisions and 2 brigades of dragoons, including 2 divisions of guards and 6 divisions of Cossacks; 492 batteries, of which 305 are light, 98 heavy, 26 howitzer, 15 mountain, and 48 horse artillery; and 29 battalions of sappers each with a telegraph company, 7 battalions of railroad troops, 8 pontoon battalions, 12 fortress sapper companies, 11 submarine mining companies, 6 fortress balloon detachments, and 7 fortress telegraph detachments. The infantry weapon is a new rifle having 5 cartridges in the magazine. The field-artillery have steel breechloaders having a range of 4,150 yards for the heavy guns, 4,480 yards for the light, and the mountain guns have a range of 4,700 yards, the howitzers one of 3,600 yards for shell and shrapnel.

The Navy.—The Baltic fleet in the beginning of 1901 consisted of 7 first-class and second-class battle-ships, 2 of the second class, 7 coast-defense vessels, 1 armored cruiser, 11 belted and protected cruisers, 30 gunboats, and 8 old ironclads and armored gunboats. There were building 6 first-class and 2 second-class battle-ships, 1 coast-defense vessel, 1 armored cruiser, 7 protected cruisers, and 2 gunboats. The turret-ships *Oslia-bia*, *Peresviet*, and *Pobieda*, launched in 1898 and 1899, have a displacement of 12,674 tons, 10 inches of Harveyized armor at the water-line, engines of 18,000 horse-power, making 18 knots, and an armament of 4 10-inch guns in turrets, 11 6-inch quick-firers (10 in casemates and 1 in the bow), and 20 3-inch quick-firers. They have a much greater cruising radius than the *Poltava*, *Petro-pavlovsk*, and *Sevastopol*, launched in 1894 and 1895, which have a displacement of 10,960 tons, 16-inch armor, engines of 10,600 horse-power, giving a speed of 17½ knots, and an armament consisting of 4 12-inch breechloaders and 12 6-inch, 20 3-inch, and numerous smaller quick-firing guns. A newer type is that of the *Brodino*, *Alexander III*, and *Orel*, of 13,400 tons, having a complete belt of 11-inch Harvey armor, engines of 16,300 horse-power, and an armament of 4 12-inch guns in turrets fore and aft, 12 6-inch quick-firers coupled in turrets on the broadside, 20 3-inch quick-firers below, and many smaller ones. The *Tsarevich* and *Suvaroff*, of 13,100 tons, are like

these except in size. The Retwisan, a vessel of 12,700 tons, with 10-inch armor, has the same armament and the same steam-power and speed. The Potemkin Tavrichesky, of 12,480 tons, is a slower vessel more heavily protected and armed, being an improved Trisvititelia, which was launched in the Black Sea in 1893 and has the most complete protection of any vessel afloat, and of much greater weight than the Harvey armor of the newer vessel. The beginning of a strong Black Sea fleet was the construction of the still formidable barbette ships Ekaterina II, Tchesme, and Sinop, of 10,180 tons, launched in 1886 and 1887. The Dvenadsat Apostolov, Pobiedonosetz, Trisvititelia, and Rostislav, all remarkable vessels, with 8 gunboats, completed the fleet as it existed in the beginning of 1901, the Potemkin Tavrichesky not being finished, nor two armored cruisers that were in hand. The Russian armored cruisers are as varied and striking in design as the battle-ships. The Rurik, launched in 1892, has a displacement of 10,900 tons, with a powerful quick-firing armament, besides 4 8-inch guns, and a coal capacity sufficient for a cruise of 20,000 miles. The older Pamiat Azova has been newly armed with 6-inch quick-firers. The Rossia, of 12,130 tons, launched in 1896, is surpassed by the Gromovoi, of 12,336 tons, which will have 4 8-inch quick-firers and 16 6-inch, 24 3-inch, and 24 smaller ones. The Bayan, of 7,800 tons, carrying 2 8-inch, 8 6-inch, 20 3-inch, and 7 smaller quick-firers, is designed to steam 21 knots an hour, 1 knot better than the Rossia and the Gromovoi. The protected cruisers Aurora, Diana, and Pallada, built on the Neva in 1899, displace 6,500 tons, carry 8 6-inch, 20 3-inch, and 8 smaller quick-firers, and with engines of 11,610 horse-power can steam 20 knots. A speed of 23 knots is expected from the Bogatyr and Askold, built in Germany, the Waryag, built in the United States, and four more of the same class to be built in Russia, all of 6,500 tons, armed with 12 6-inch, 12 3-inch, and 6 smaller quick-firers, and having engines of 20,000 horse-power. The novel torpedo-cruiser Novik, of 3,000 tons, built at Elbing, and her sister, the Boyarin, built at Copenhagen, carry each 7 4.7-inch guns and have a speed of 25 knots. There were 21 destroyers completed and 13 building at the beginning of 1901; 45 first-class torpedo-boats were completed and 6 were not yet ready; and there were 41 of the second and 101 of the third class. Of submarine boats none were in existence, but there was a plan to build 50. The torpedo-craft can pass by rivers and canals between the Baltic and the Black Sea. A ship canal is projected for the passage of the larger vessels, which would enable Russia to concentrate the two separate fleets. Sebastopol has been converted into a strong naval port. Treaty covenants stand in the way of the free entrance of Russian war-vessels from the Black Sea into the Mediterranean, and Turkish forts guard the passage. The Baltic fleet can operate in winter only by the aid of ice-cutting steamers. An ice-free naval port is being made at Libau and another is projected on the coast of Lapland. The complications in China caused the best part of the fleet to be despatched to the East, where, having Port Arthur as an alternative base, the fleet is not ice-locked in winter at Vladivostok. A Russian volunteer fleet, by a contract made in 1892 for ten years, receives a subsidy of 600,000 rubles a year on condition of making a certain number of voyages with passengers and mails from Odessa to Vladivostok and intermediate ports. The managers also undertook to build 4 fast cruisers of from 8,000 to 10,000

tons, and have accordingly built the St. Petersburg, Kherson, Moskva, and last the Smolensk, which makes 20 knots. A new port for naval and commercial purposes was opened at Kherson on July 28. The channel of the Dnieper was deepened to permit the navigation of vessels of 17 feet draft. A canal with a depth of 18 feet is planned to connect the Sea of Azov with Rostov.

Commerce and Production.—Of the land area of Russia proper, 1,100,405,967 acres, 36.7 per cent. of the whole, 403,609,583 acres, belong to the Government or to the imperial family, 385,422,924 acres, or 35 per cent., have been allotted to the emancipated serfs, and 311,373,460 acres, or 28.3 per cent., to private owners or to municipalities or other corporations. Of the state and imperial domains, 68.3 per cent. is fit for cultivation; of the peasants' lands, 90.4 per cent.; of the private estates and other lands, 85.6 per cent. Of the total area, 317,710,554 acres, or 28.9 per cent., are arable; 162,387,035 acres, or 14.7 per cent., are orchard, meadow, and pasture; 410,116,113 acres, or 37.3 per cent., are forest; and 210,192,265 acres, or 19.1 per cent., are waste land or occupied with roads, buildings, etc. In the private and corporate estates 31.2 per cent. of the land is arable, 18.8 per cent. orchard and grass land, 35.6 per cent. forest, and 14.4 per cent. waste, roads, etc. The total area of Poland is 29,931,076 acres, of which 1,807,050 acres, or 6 per cent., are property of the state or the Czar, of which 94.9 per cent. is tilled; 12,233,732 acres, or 40.9 per cent., are owned by peasants, who till 94.6 per cent. of their land; and 15,890,294 acres belong to private owners, towns, etc., 92.9 per cent. being tilled. The arable land of Poland, 15,931,912 acres, is 53.2 per cent. of the whole, while orchard, meadow, and grazing lands, 5,421,207 acres, are 18.1 per cent., forests cover 6,763,337 acres, or 22.6 per cent., and 1,814,620 acres, or 6.1 per cent., are unfit for tillage or used for roads, etc. The area under crops in the European provinces of Russia in 1899 was 180,613,000 acres; in Poland, 12,538,000 acres; in northern Caucasia, 10,129,000 acres. The crops of the Russian provinces in 1900 were 531,683,000 pounds of wheat, 1,285,243,000 pounds of rye, 249,462,000 pounds of barley, 660,845,000 pounds of oats, 228,683,000 pounds of buckwheat, millet, corn, peas, etc., and 1,026,678,000 pounds of potatoes; crops of Poland, 32,767,000 pounds of wheat, 104,860,000 pounds of rye, 24,476,000 pounds of barley, 45,400,000 pounds of oats, 14,065,000 pounds of various crops, and 515,722,000 pounds of potatoes; crops of northern Caucasia, 94,374,000 pounds of wheat, 11,623,000 pounds of rye, 35,537,000 pounds of barley, 15,317,000 pounds of oats, 29,095,000 pounds of various grains and pulse, and 22,599,000 pounds of potatoes. Siberia in 1899, as far as reports were received, produced 75,552,000 pounds of wheat, 47,333,000 pounds of rye, 68,101,000 pounds of oats, 12,437,000 pounds of other grain crops, and 28,241,000 pounds of potatoes. The production of the steppes was 24,819,000 pounds of wheat and nearly as much of other cereals. The total wheat-crop of the Empire in 1899 was 754,545,000 pounds; the rye-crop, 1,413,667,000 pounds; the crop of oats, 881,954,000 pounds; the crop of barley, 301,600,000 pounds; the crop of potatoes, 1,504,123,000 pounds. In Russia and Poland 4,004,642 acres under flax in 1899 produced 357,369 tons of fiber and 17,304,357 bushels of seed, and 1,813,034 acres under hemp produced 217,380 tons of fiber and 19,675,262 bushels of seed. There were 250,675 acres of vineyards in Transcaucasia, producing 17,043,000 gallons of wine, and 10,265 acres planted to tobacco yielded 3,392 tons, while 12,830 tons were grown on 29,-

400 acres in the Kuban. The hay-crop of the empire was 48,504,938 tons from 92,402,813 acres, Russia proper producing 32,790,862 tons. There were in 1898 in European Russia 17,004,300 horses, 24,425,300 cattle, 119,800 camels, 38,140,300 sheep, 1,364,200 goats, and 9,148,800 pigs; in Poland, 1,185,700 horses, 2,838,300 cattle, 3,227,100 sheep, 8,900 goats, and 1,229,500 pigs; in Asiatic Russia, 6,012,000 horses, 5,560,000 cattle, 1,143,000 camels, 20,818,000 sheep, 1,245,400 goats, and 633,800 pigs; in the Caucasus, 1,152,000 horses, 4,590,000 cattle, 16,300 camels, 12,604,000 sheep, 571,000 goats, and 956,000 pigs. The Government forests in 1900, at an expense of 8,600,000 rubles, produced 48,900,000 rubles of revenue. The production of gold in the Russian Empire was 38,792 kilograms; of platinum, 6,240 kilograms; of silver, 5,943 kilograms; of lead, 238 tons; of zinc, 5,580 tons; of copper, 6,495 tons; of pig iron, 2,206,000 tons; of rolled iron, 580,000 tons; of steel, 1,149,000 tons; of coal, 12,051,000 tons; of naphtha, 8,210,000 tons; of salt, 1,474,000 tons.

The production of Siberia has increased very much since the construction of the railroad, which had 11 per cent. more traffic in 1900 than in 1899. The quantity of cereals transported over the line in 1900 was 633,000 tons, of which more than a third was consumed in Siberia, a fifth was eaten by the mining population of the Urals, a somewhat smaller quantity was shipped into European Russia, over an eighth was sent to Baltic ports and thence to Great Britain, and a smaller quantity was shipped to western Europe by way of Archangel. The total does not include the large amount of grain shipped eastward by the water-routes. Wheat constitutes more than half the cereal crops of Siberia, most of it being grown on the rich soil of Semipalatinsk. The cultivation of rye and oats is declining, also that of the famous wheat of the Ichym and Kurgan districts, whence cattle are now shipped to St. Petersburg and butter to the same place or to southern Russian ports for export. The number of cattle carried by rail in 1900 was 9,705. Salt meat is sent to Moscow and St. Petersburg for the use of the army. Only a fifth of the iron and steel imported into Siberia in 1900, a tenth of the sugar, and a third of the manufactures, went by rail. The quantity of tea shipped over the railroad in 1900 was 57,500,000 pounds. It comes from China by caravan to Kiachta on the border of Mongolia and passes through Irkutsk. A vast quantity of tea is still transported through Siberia by sledges in winter and by water during the summer, and much that goes over the railroad is transshipped at the first river port. The Obi and Irtys are navigable almost to their sources, and the Obi and Yenesei are connected by a canal. The cultivation of tea in the Transcaucasian territory is being rapidly extended with Government assistance. Good crops have been harvested in the vicinity of Batum, and plantations have been started on the Black Sea coast and in Mingrelia. Large numbers of Russian settlers, particularly the Molokanis, who do not believe in war, settled into Transcaucasia and Transcaspiia, where they were free from molestation on the part of the authorities and from military conscription. In the summer of 1901, when it was reported that the law of compulsory military service would be applied in these territories, many of them petitioned for permission to emigrate to America.

The total value of imports of merchandise in 1899 was 642,778,000 rubles, and of exports 626,479,000 rubles. In the general reports are included, since 1894, with the trade by way of the European frontiers of Russia, the trade with Fin-

land and the exports from the ports of northern Caucasasia on the Black Sea, many of which are destined for Europe. The trade over the other Asiatic frontiers is not included. The imports of food products were 73,441,000 rubles, and exports 317,000,000 rubles in value; imports of raw and partly manufactured articles was 301,376,000 rubles, and exports 249,900,000 rubles; imports of animals were 1,802,000 rubles, and exports 17,300,000 rubles; imports of manufactured goods were 217,856,000 rubles, and exports 17,400,000 rubles. The export of wheat was 34,466,000 hundredweight; of rye, 19,559,000 hundredweight; of barley, 24,019,000 hundredweight; of oats, 9,197,000 hundredweight; of corn, 9,224,000 hundredweight; of peas, 1,927,000 hundredweight; of flour, 2,895,000 hundredweight; of other cereal products, 9,876,000 hundredweight. The export of eggs was 1,685,000,000 in number, valued at 28,645,000 rubles. The value of oil-cake exported was 15,957,000 rubles. The quantity of raw naphtha exported was 367,570 hundredweight; of illuminating oil, 21,927,300 hundredweight; of lubricating oil, 3,383,000 hundredweight; of petroleum waste, 1,181,100 hundredweight; total mineral oils, 26,858,970 hundredweight. The value of cereal exports was 259,022,000 rubles; of fish and caviare, 4,161,000 rubles; of dairy-products, 7,780,000 rubles; of spirits, 779,000 rubles; of sugar, 8,754,000 rubles; of various food-products, 7,947,000 rubles; of timber and wood manufactures, 53,595,000 rubles; of platinum, mercury, etc., 3,608,000 rubles; of oil-seeds, 27,507,000 rubles; of flax, 55,747,000 rubles; of hemp, 9,798,000 rubles; of tallow, 392,000 rubles; of bristles, hair, and feathers, 11,138,000 rubles; of wool, 6,639,000 rubles; of furs, 6,714,000 rubles; of naphtha and naphtha products, 31,678,000 rubles; of metal manufactures, 1,614,000 rubles; of woollen goods, 1,545,000 rubles; of cotton goods, 1,364,000 rubles. The imports of machinery in 1899 were 99,435,000 rubles in value; of raw cotton, 53,053,000 rubles; of raw metals, 46,256,000 rubles; of metal manufactures, 45,071,000 rubles; of coal and coke, 30,668,000 rubles; of wool and yarn, 26,860,000 rubles; of tea, 19,085,000 rubles; of gums and resins, 13,896,000 rubles; of fish, 13,562,000 rubles; of wine, beer, and spirits, 13,327,000 rubles; of chemicals, 13,028,000 rubles; of colors, 12,618,000 rubles; of cotton goods, 9,791,000 rubles; of other textile goods, 11,947,000 rubles; of leather, hides, and skins, 11,600,000 rubles; of raw silk and yarn, 10,646,000 rubles; of fruits and nuts, 8,034,000 rubles; of coffee, 6,127,000 rubles; of clocks and watches, 3,808,000 rubles; of grain, flour, and rice, 2,636,000 rubles; of tobacco, 2,628,000 rubles. The imports and exports over the Asiatic frontiers not included in the above figures amounted in 1898 to 66,510,000 and 23,773,000 rubles respectively. The imports of food products from Asiatic countries were 36,106,000 rubles in value, and exports to them 7,717,000 rubles; imports of raw and partly manufactured articles were 15,787,000 rubles, and exports 2,903,000 rubles; imports of animals were 2,153,000 rubles, and exports 574,000 rubles; imports of manufactured goods were 12,464,000 rubles, and exports 12,570,000 rubles. Chief among the imports were tea for 24,496,000 rubles, textiles for 5,578,000 rubles, machinery for 4,716,000 rubles, dried fruits for 4,431,000 rubles, cotton for 4,017,000 rubles, rice for 3,250,000 rubles, animals for 2,153,000 rubles, and silk for 2,123,000 rubles. Among exports to Asiatic countries the leading articles were naphtha for 21,260,000 rubles, grain for 16,125,000 rubles, cotton goods for 9,023,000 rubles, sugar for 6,309,000 rubles, oil-seeds for

3,021,000 rubles, manganese ore for 3,021,000 rubles, woolen goods for 1,235,000 rubles, and metal manufactures for 653,000 rubles.

The values in rubles of the imports from and exports to the various foreign countries in 1898 are given in the following table:

COUNTRIES.	Imports.	Exports.
Germany.....	202,171,000	179,436,000
Great Britain.....	114,082,000	139,906,000
France.....	27,102,000	68,594,000
Netherlands.....	9,777,000	72,257,000
Austria-Hungary.....	23,922,000	42,416,000
Italy.....	10,171,000	54,608,000
United States.....	50,059,000	3,014,000
Belgium.....	23,608,000	28,788,000
China.....	40,293,000	634,000
Egypt.....	22,636,000	6,727,000
Turkey.....	6,867,000	14,072,000
Denmark.....	5,249,000	9,357,000
Roumania.....	1,874,000	12,675,000
Other countries.....	.....	75,915,000
Total.....	562,013,000	780,899,000

The imports by the European frontiers in 1898 were 541,500,000 rubles in value; by the Asiatic frontiers, 55,400,000 rubles; from Finland, 20,600,000 rubles; total merchandise imports, 617,500,000 rubles. The exports by the European frontiers were 675,600,000 rubles; by the Asiatic frontiers, 23,800,000 rubles; to Finland, 33,300,000 rubles. The imports of precious metals were 131,489,000 rubles, and exports 4,868,000 rubles.

A crisis in Russian industry, following on a period of extraordinary expansion, began in the latter half of 1899 and still continued in 1901. During the period of activity enormous amounts of capital were invested in new enterprises, a great part of it French and Belgian capital, and when the depression set in some of these enterprises were arrested before their plant was finished. The scarcity and dearness of coal and naphtha checked manufacturing in general. In the cotton industry the price of the raw material was increased by a sudden increase of the duties. The iron industry, which had been stimulated by the demand for railroad material and, after the construction of new railroads, for iron goods of all descriptions in the country which they opened up, saw the demand gradually diminish. The Government orders by which this industry had been fostered, as well as by high protective tariffs, ceased. The furnaces and factories still went on producing and piling up goods for which there was no market. The high profits of prosperous years, permitting in many cases dividends of 40 or 50 per cent., had caused an inflation in the value of the shares, which now shrank to such an extent as to ruin a great number of small investors and to cause the failure of banks which had loaned money on these securities. The commercial banks in Russia had played a large part in starting and furthering a vast number of industrial enterprises which now suffered in the general depression. All securities fell in value except those of railroads and land banks. The banks, the Ministry of Finance having refused them permission to resort to their reserve funds or to issue new shares, were unable to give any support to the enterprises which they had taken a direct part in starting. The shares of the Belgian companies fell to a half and even a tenth of their former value. Many factories and blast-furnaces were closed and mortgage and discount banks failed, as well as industrial companies. The firms of individuals and partnerships had been converted into joint-stock companies on an enormous scale during the speculative fever, and when the bubble burst the deluded purchasers of the shares

blamed the Government or looked to the Government to furnish relief, so dependent is everybody in Russia on the Government. Recent harvests have been bad, and the harvest of 1901 was insufficient. In some parts of Russia the people have suffered partial famine year after year, and their situation has grown steadily worse. The cattle become fewer, and the land yields poorer returns on account of exhaustive methods of tillage. Famines in consequence occur with greater frequency and more disastrous and lasting results. Although forty years have passed since the emancipation of the serfs and much has been done to improve their material well-being, their condition in most parts of the empire is such as to cause serious apprehension. Among the measures adopted in favor of the peasantry were the abolition of the poll-tax, the diminution and the partial remission and postponement of the annual redemption payments, the establishment of the Peasants' Bank, and the encouragement of migration. The advantages conferred by a diminution of direct exactions were, however, neutralized to a great extent by an increase in indirect taxes on articles of primary necessity through the protective duties levied for the advantage of the manufacturing class. Although arrears of the redemption payments amounting to great sums have been remitted from time to time, these arrears have grown nevertheless without abatement, amounting in 1901 to at least \$55,000,000. Since the emancipation in 1861 the Government has spent \$475,000,000 in redeeming from the proprietors 89,500,000 acres of agricultural land, which was turned over to 90,000 communes.

The foreign commerce in 1901 showed a slight increase over that of 1900, exports being much larger in value, while imports decreased. Of the exports over 56 per cent. consisted of grain and other agricultural food products, 38 per cent. of raw materials, and 2½ per cent. of cattle and poultry. Of the imports 15 per cent. consisted of provisions, 53 per cent. of raw materials and partly finished manufactures, and 31 per cent. of manufactured goods. The increase of exports, although most pronounced in foodstuffs and unmanufactured products, is distributed over every branch of the export trade.

Navigation.—The number of vessels in the foreign trade entered at White Sea ports during 1899 was 668, of 331,000 tons; at Baltic ports, 5,643, of 3,721,000 tons; at ports of the Black Sea and the Sea of Azov, 4,161, of 4,636,000 tons; total number, 10,472, of 8,688,000 tons. The total number cleared was 10,423, of 8,677,000 tons. The number of vessels that visited Russian ports of the Caspian Sea in 1898 was 20,114, against 19,407 in 1897. The number that visited the ports of Vladivostok and Nikolaievsk in 1898 was 384. The number of coasting vessels that visited ports of the White Sea, the Baltic, and the Black Sea was 47,552 in 1898, and 19,171 visited ports of the Caspian Sea.

The merchant navy on Jan. 1, 1899, consisted of 2,143 sailing vessels, of 254,116 tons, and 657 steamers, of 299,724 tons. On Jan. 1, 1899, there were 2,294 sailing vessels, of which 586, of 78,745 tons, belonged in the Baltic, 396, of 22,149 tons, in the White Sea, 773, of 54,535 tons, in the Black Sea and the Sea of Azov, and 539 in the Caspian Sea; and the number of steamers was 604, of which 95, of 19,053 tons, belonged in the Baltic, 33, of 5,028 tons, in the White Sea, 263, of 142,512 tons, in the Black Sea and the Sea of Azov, and 213 in the Caspian.

Railroads, Posts, and Telegraphs.—In 1900 there were 34,485 miles of railroads in operation,

of which 32,764 miles were under the direction of the Ministry of Ways and Communications, 20,111 miles being the property of the Government, 1,791 miles in Finland and mostly belonging to the Government of the grand duchy, 9,591 miles the property of companies, 2,310 miles isolated lines, and 752 miles local railroads. The connected network is formed by 28 lines, besides which there are 7 unconnected lines. The receipts in 1899 from 26,689 miles were 494,639,000 rubles. In 1898 the gross receipts from 24,645 miles were 465,741,008 rubles; expenses of operation, 277,576,194 rubles; net receipts, 188,164,814 rubles; number of passengers carried, 83,708,100; tons of freight, 118,106,000. The cost of construction of the lines belonging to the Government was 2,870,288,752 rubles. The gross receipts of railroads managed by the Government was 322,356,627 rubles in 1898; expenses, 188,160,062 rubles; net receipts, 134,196,565 rubles; interest paid on capital borrowed for the purchase of railroads by the Government, 109,298,623 rubles; net revenue, 24,897,942 rubles. The cost of construction of lines belonging to companies was 1,755,473,310 rubles, the fixed charge for interest was 44,055,116 rubles, the gross receipts were 143,384,381 rubles, and the working expenses were 89,416,132 rubles, leaving a net profit of 9,813,033 rubles. The Government incurred a loss of 30,000,000 rubles in 1889, when three-fourths of the railroad network was owned and managed by companies enjoying subsidies and guarantees, and their expropriation has converted this annual loss into a gain. The great Siberian Railroad is completed to the Chinese frontier, whence it will be carried to Vladivostok through Manchuria, the route originally selected through Russian territory having presented great engineering difficulties in the section between Sryatensk on the Shilka and Pokrovskoye on the Amur and in the valley of the Amur. The company formed to construct and manage the Manchurian Railroad consists of representatives of the Russian Government and Chinese associates selected by the Government of China. Starting from the frontier village of Nagadan, the route passes through Kharbin to Grodekovo and thence to Vladivostok. Engineering difficulties are encountered in the passage across the valley of the Sungari which are not insuperable. Construction of the main line, however, was postponed, while the branch to Dalny and Port Arthur, ports leased from China, was pushed until the antiforeign outbreak in northern China compelled a cessation of the work in 1900. The road was completed from the south as far as Mukden, 295 miles, and on 235 miles in other sections the rails were laid. Parts of the railroad were torn up by the Chinese insurgents and Manchurian robbers before Russia poured troops into Manchuria. The damage done was repaired under military supervision, and the building of the railroad was resumed. The northern section of the line to Port Arthur was completed in the spring of 1901 as far as the Sungari river. The eastern railroad to Vladivostok was pushed forward under the protection of 50,000 soldiers, and was expected to be completed before 1904. American material was used on all the eastern divisions of the Siberian railroad system. The free port privileges of Vladivostok were abolished from Jan. 1, 1901. In central Asia the Kushk Railroad has been extended to Chatil Ducteran, the extreme point of Russian territory in the direction of Herat, and a branch is being made through Penjeh toward Maruchak. The line from Tashkend to Orenburg was begun in the autumn of 1901.

The post-office in 1898 handled 363,584,732 internal and 45,358,024 foreign letters and postal cards, 15,629,911 internal and 602,196 foreign money-letters, 60,951,870 internal and 19,926,963 foreign book packets, 188,519,102 internal and 7,616,464 foreign periodicals, 4,286,702 internal and 285,309 foreign parcels, and 3,823,363 internal postal orders. The receipts were 26,876,409 rubles and expenses 32,069,350 rubles.

The telegraph-lines on Jan. 1, 1899, had a length of 93,052 miles, with 271,024 miles of wire. The number of messages transmitted in 1898 was 19,217,238. The length of telephone-wire was 35,300 miles, and the number of conversations in 1898 was 103,426,088. Late in 1898 the long-distance wire between St. Petersburg and Moscow was ready.

Tariff War with the United States.—The United States tariff act of 1897 provided that if any country gave, either directly or indirectly, a bounty or grant on the export of any article subject to duty, an additional duty equivalent to such bounty shall be charged on its importation into the United States. Russian sugar was accordingly specially taxed at rates equal to the bounties, ranging from $\frac{3}{4}$ to $\frac{1}{2}$ ruble per pound of 36 pounds. When the Russian Government protested that it paid no bounties, the additional duties were, on April 20, 1900, suspended until inquiries could be made. After ten months they were reimposed at enhanced rates. The Russian Government retorted by applying the maximum tariff to American iron, steel, hardware, machinery, and other articles, which had long enjoyed the minimum Russian tariff. This involved an increase of 30 to 50 per cent. in duties and affected about one-fourth of the American exports to Russia, the annual value of the exports thus brought under the general tariff being about \$2,500,000. The Russian exports of sugar to the United States have been insignificant, but production and exportation of sugar have increased rapidly in the last few years. For a short period the Russian Government paid a direct bounty on exported sugar. In 1895 the Government superseded a syndicate in the control of the industry. A prohibitory duty was then imposed on all foreign sugar and an excise duty of 1.75 ruble was levied on all crystallized sugar manufactured. The Government determined for each year the quantity of sugar which manufacturers shall freely put upon the market, and the quantity which must be kept as a reserve to be sold when prices rise above a fixed limit. The surplus beyond these fixed quantities can either be exported, in which case the excise duty will be refunded, or it can be sold in the domestic market on payment of double excise duty. The maximum price for home consumption is always much higher than the cost of production, assuring profits sufficient to cover losses on exports. The price for home consumption in the Kiev market is often three times the export price. Not knowing how much he can sell at these remunerative prices in addition to the fixed quantity of 60,000 pounds which he is free to sell, each manufacturer is encouraged to increase his production, and thus the exportation of a surplus not absorbed in Russia is stimulated. Exports are further encouraged by allowing one manufacturer to transfer to another his rights to sell sugar up to a fixed limit in the domestic market without paying double excise duty, so to secure such transfers some of the manufacturers pay premiums to others to induce them to export their quota. The United States Treasury officials, in March, 1901, withdrew the privilege extended to Russian war-ships

of obtaining provisions from bonded warehouses without payment of duty for the reason that Russia did not grant the same privilege to American war-ships. The question whether the Russian system of sugar rebates acted as a bounty, as the United States Government finally decided, was brought up in the Brussels Sugar Conference of 1898, where it was contended that the limitation of the supply of sugar on the home market, aided by a fixed remunerative selling price, stimulated production, and that the unsold sugar must be exported at less than the cost of production. It was calculated by one of the delegates that it operates as an indirect bounty of 17.60 francs per 100 kilograms. The Russian delegate declared that Russia paid no bounty, but simply refunded the excise duty, and that the Russian legislation was designed to hinder overproduction.

Popular Disturbances.—Industrial depression, monetary stringency, agricultural distress, vexatious Government regulations, and official maladministration produced discontent among all classes of society in 1901 when the foreign policy of Russia had attained brilliant successes and the empire seemed to have entered on a new career of greatness and expansion. In January, 1901, began a movement among the students more general and more desperate and determined than any that had preceded it. The agitation spread not only among the students of all the universities, but among the townspeople, and the laboring class far and wide showed their sympathy with the students by taking part in their demonstrations. This was very unusual in Russia, where in previous revolts of the students against the university authorities the mob has usually encouraged and helped the police and showed animosity against the students. A secret organization among students with ramifications in all the universities was discovered by the police long before any open demonstrations took place. The object was to secure more liberal university statutes and the abolition of the temporary regulations of 1899. A congress of the secret league was held at Odessa, and when the delegates from all universities were arrested the Government believed it had checked the movement at the start. The obnoxious statutes were not altered, and the application of the temporary regulations at Kiev gave the movement a great impetus. In Kiev the university council condemned some law students to the *carcer*, or university jail, with the object of intimidating the whole student body, and students of law more particularly because the latter had objected to taking lectures on international law from a professor of criminal law, and the Governor-General on hearing of their complaints had forbidden this incompetent professor to lecture on that subject. The students met in the hall and invited the rector to come and discuss with them the abolition of the punishment of *carcer*, but he sent for the military, who entered the hall and took the names of 500 students. These were tried before a special court composed of representatives of the university, the police, the army, and the judiciary, and 138 were condemned to be sent into the ranks of the army for one, two, or three years, the only punishment provided by the law of 1899 for cases of insubordination among the students brought before such a tribunal. The military and judicial delegates voted against this kind of penalty, but the university delegates and those of the Ministry of the Interior prevailed. In consequence of the disturbance the Governor-General of Kiev proclaimed a state of siege. In Moscow, where the general strike of the students began in 1899, stu-

dents interrupted lectures, attempted to create disturbances, distributed proclamations, and committed all the usual acts of revolt, for which 300 of them were cited for discipline. The demands of the Russian students were only for somewhat more liberal statutes, some changes in the rules for examinations, the removal of a professor here and there, better treatment by the police, and the annulment of the statute requiring them to wear uniforms. They wished to return to the statutes of 1863 which were changed in 1884 for the stringent and galling regulations that have been resented by the students ever since their enactment. The professors have under the new order become officials of the Government whose tenure of office depends on maintaining discipline. The police regard students as a dangerous and revolutionary class who are hatching conspiracies for the overthrow of the Government, and they look for promotion if they show zeal against such enemies of the state. When the Cossacks are called out these use their knouts unmercifully on the uniformed students wherever they are found, and the students defend themselves by stabbing the horses. Public sympathy, which was averted from the students when nihilism was rife, has turned in their favor. The persecution of the Jews, the Roman Catholics, and the Russian sectaries was felt to be of a piece with the university regulations, and the trammels and vexations of the administration to be a cover for corruption. When everybody felt now the pinch of hard times the Government was held responsible. Discontent with the laws and their administration, which formerly was confined to a section of the students and professors, now extended to the commercial class, the working men, the peasants, and the landed proprietors. In the Moscow disturbances the tradespeople and the factory hands, instead of pelting and striking the students as on former occasions, attempted to rescue them from the police. At Kharkov student demonstrations were treated in the same manner as at Kiev. The fermentation in the universities began long before any open demonstration occurred. Bulletins were printed in the various universities and, in spite of the vigilance of the police, were widely distributed, usually by young girls. Nothing more revolutionary was demanded than free activity and liberty of thought. Even the universities of the Baltic provinces were now sufficiently Russianized to take part in the movement. In St. Petersburg the troubles were more serious than in the other cities. When the first manifestation was made by the students 13 of the ringleaders were sent to serve in the army and 30 were expelled. The Kiev students who had been sent to the army refused at first to take the military oath, and the military authorities were unwilling to accept them. M. Bogolepoff and M. Sipyaghin, the Ministers of Education and the Interior, and M. Pobedonostseff were determined to take the most stringent measures to check the movement which seemed to be spreading from the students into other ranks of society and threatened to lead to revolution. Governments that yield are governments that fall was the opinion of the Minister of the Interior. M. Witte, the Minister of Finance, and Gen. Vannovsky were rather in favor of conciliatory measures, and so the students believed the Czar to be. On Feb. 27 Peter Karpovich, a former student who had written from Berlin for permission to complete his studies at the University of St. Petersburg and met with a refusal, shot and fatally wounded M. Bogolepoff with a revolver. In Moscow students and workmen together erected barricades, smashed win-

dows, overturned street-cars, and held possession of the streets for five days. The Governor-General, the Grand-Duke Sergius, whose palace was attacked, did not venture out. The whole police force was powerless, and a large force of troops had to be brought in to restore order. In St. Petersburg on March 4 students, male and female, gathered in the Kazan Cathedral and interrupted the services with cheers for the Czar. In the succeeding days disturbances took place in St. Petersburg, in Kharkov, and in Moscow, and correspondence was discovered connecting them. Authors, professors, and physicians were arrested, as well as students, in St. Petersburg. In Kharkov a sotnia of Cossacks surrounded an assemblage of students and arrested some, but on the same evening a crowd of them made a demonstration in front of a newspaper office, and another crowd in the theater, so that soldiers were called out to help the police. On March 8 a large meeting of students of both sexes was held in the hall of the University of Moscow in spite of the warnings of the police, and violent speeches were made. The police drove them into a neighboring house, kept the men there overnight, and in the morning took 53 to jail, and on March 10 made 463 more arrests after the students had broken windows in several streets. The tumults continued, and fresh arrests were made daily. In Odessa, after a disorderly outbreak, many students were arrested as the result of the discovery of incriminating documents. On March 17 about 3,000 students assembled in St. Petersburg on the Nevsky Prospect before the Kazan Cathedral to celebrate the memory of the woman student Veterova who died in Peter-Paul fortress. Printed circulars passed from hand to hand. When a student read an appeal enumerating the demands of the students the police and the Cossacks charged into the crowd. The students took refuge in the church, throwing stones and other objects at the police and Cossacks, and unfolded banners containing various devices, which were snatched from their hands by the police. A sharp fight took place on one side of the cathedral, and when the commander of the Cossacks was wounded by a blow from a hammer his men dismounted and, plying their whips savagely, closed in on a part of the crowd, while the rest fled into the church, disturbing the religious service that was going on with their shouts until the police entered and expelled them. There were 26 policemen and Cossacks wounded, and there were arrested 339 male and 377 female students, and 44 others. The work-people from the factories in the suburbs set out for the town, but could not force their way through the strong guards that were posted at the entrances. The Czar wished to go to the Kazan square to speak to the students about their grievances, but was restrained by the ministers. The students while in the cathedral smoked cigarettes, whistled, and threw things at the holy images to show that they wished no longer to belong to the Orthodox Church. This was on account of the excommunication of Count Leo Tolstoi recently pronounced by the Holy Synod. Several hundred students had signed a protest against it and a petition that they also be excommunicated. The proclamations scattered by the students were not confined to their particular grievances, such as the temporary regulation consigning them to service in the army. Some were of revolutionary import, calling for the overthrow of the corrupt officials, and even the autocracy of the Czar, and demanding liberty and free government. Many working men participated in the demonstration. The police were unable to dis-

cover here, and still more at Moscow, whether the working men had indoctrinated the students with European socialism or whether it was the students who were stirring up discontent among the working men. It required two regiments of Cossacks, a squadron of gendarmes, and the whole police force of the city to quell the disorder in St. Petersburg, and the fighting lasted from morning till late in the night. The students had only sticks to defend themselves, and in the crowds on the Nevsky Prospect that were brutally assailed by the police with sabers and by Cossacks with knouts were the usual Sunday promenaders. On March 22 an attempt was made upon the life of the reactionary procurator of the Holy Synod, M. Pobedonostseff, who was shot at by a petty official, who had been chosen by lot to avenge the excommunication of Count Tolstoi and the oppressive treatment of the students. A fresh revolutionary movement was dreaded, and it was expected to break out among the workmen rather than among the students. Troops were stationed so as to appear immediately whenever any concourse or suspicious movement occurred at any of the mills in the vicinity of the capital, and the operatives were no longer permitted to enter the city. Threatening letters were received by several of the ministers. At a Cabinet council it was decided to proceed leniently with the students. Although the law for drafting refractory students into the army would not be revoked, it would no longer be put in force for a time. It was also resolved to revise the university statutes. Gen. Vannovsky succeeded M. Bogolepoff as Minister of Education, and his aim was supposed to be to replace the statutes of 1884, which treat professors and students alike as suspects, by more liberal statutes framed on those of 1863. An almost complete amnesty was ultimately extended to the students who were mixed up in the disturbances. It was decided to exclude women henceforth from lectures on medicine and pedagogy. A private person gave a vast sum to endow a separate woman's university in Moscow. An edict was issued restricting the number of Jewish students in the universities to 2 per cent. of the whole number.

The authors of Russia protested in foreign newspapers against the savage treatment of street crowds, and for that their society for mutual assistance was closed by the prefect of St. Petersburg. Senators and professors published in a foreign newspaper an appeal to the Czar in which they pointed out the evil consequences that had resulted from the measures taken in the last forty years to repress student outbreaks, thousands of vigorous and earnest spirits converted into the revolutionary foes of a Government that had blasted their chosen careers by preventing them from completing their studies, and accused the Ministry of Education of distorting every reform in university education which the Czar ordered. The law forbidding a collective petition to the Emperor they considered oppressive, as all interest in public activity and loyal cooperation is deadened if in an autocracy the voice of his subjects can not reach the sovereign. Gen. Vannovsky was appointed Minister of Education on April 7, and the task was entrusted to him of thoroughly reorganizing and renovating the Russian universities, in which work the cooperation of the nation and the assistance of parents was requested in the Emperor's rescript. The new Minister of Education consulted the faculties of all the universities as to the changes that were desirable in the statutes and regulations governing higher education. He desired to get expert opinions as

to whether the rector and other high officials* of the universities should be nominated or elected; as to the steps to be taken to induce the students to work with greater zeal, and to bring about better relations between professors and students; as to the advisability of permitting or establishing students' societies, and of setting up university courts and courts of honor among the students; as to arrangements for teaching and examining the students; and as to the powers to be exercised by the inspectors, the faculties, and the professors. It was recognized that the changes introduced in 1884 placed in the hands of officials of the central administration powers which properly belong to the boards of faculty and to the individual professor. The universities were invited to express their views on the proper competence of the various authorities controlling higher education. The perturbation among the students ceased when it was seen that Gen. Vannovsky was bent on introducing a real reform. Amnesty was granted to the students undergoing punishment for the part they took in the disturbances. Those who were rusticated or expelled were allowed to return and those enrolled in the army were recalled, to the equal satisfaction of the students and the military authorities.

Many thousands of workmen were thrown out of employment by the closing of factories. The Government decided to give them free passage over the railroads to their own villages. A part of them were, however, turned out from the great industrial centers into the neighboring rural districts, and much lawlessness resulted. Arson became frequent in various parts of the empire. Socialistic manifestations took place among the work-people in Poland and in Odessa, Kharkov, St. Petersburg, Moscow, and other Russian cities. Students were found in disguise among the workmen. Wholesale arrests were made in St. Petersburg and elsewhere, and in domiciliary visits evidence was discovered of a socialistic revolutionary propaganda carried on all over the country. Persons of high position, rank, wealth, or reputation were implicated and arrested. Others escaped abroad.

Finland.—The grand duchy of Finland when united to Russia in 1809 preserved by grant of the Czar its constitutional form of government. Its legislative body is composed of representatives of Four Estates; the knighthood and nobility, the clergy, the citizens, and the peasants. Laws are prepared by the State Secretariat of Finland in St. Petersburg and submitted to the Four Estates, whose unanimous consent is necessary for amendments to the Constitution or new taxes. The Czar in Finland bears the title of Grand Duke. The Governor-General is Gen. N. Bobrikoff. The grand duchy has its own customs, with modifications recently imposed, its own monetary system, and its state railroads. In 1890 the postal administration was placed under the control of the Russian Minister of the Interior. The military system was independent, and Finnish soldiers were not compelled to serve outside of the grand duchy until obligatory service for five years was introduced in 1899 in accordance with the recommendations of a Russian military commission, against the protest of the Parliament and people.

The population was estimated in 1898 at 2,637,130, divided into 1,304,289 men and 1,332,841 women and composed of 2,269,375 Finns, 357,300 Swedes, 7,425 Russians, 1,850 Germans, and 1,180 Lapps. Helsingfors, with Sveaborg, had 85,041 inhabitants. The number of marriages in 1898 was 20,611; of births, 89,106; of deaths, 45,751; excess of births, 43,355.

The revenue for 1899 was estimated at 88,508,916 marks, or francs, including 27,572,513 marks from previous years and 3,000,000 marks from the reserve fund. Expenditure was equal to the revenue, including a balance of 21,959,570 marks left over. Of the revenue 5,871,620 marks were derived from direct and 31,398,000 marks from indirect taxes. The expenditure for civil administration was 10,550,832 marks; for public worship and education, 8,797,188 marks; for the army, 7,557,899 marks; for railroad construction, 14,839,056 marks; for the public debt, 5,070,756 marks. The debt, bearing 3 and 3½ per cent. interest, amounted on Jan. 1, 1900, to 115,028,841 marks.

Lakes cover a ninth of the surface of the country. The crop of rye in 1898 was 4,577,967 hectoliters; of wheat, 56,059 hectoliters; of barley, 2,018,328 hectoliters; of oats, 6,712,649 hectoliters; of potatoes, 5,967,731 hectoliters; of flax, 1,694 tons; of hemp, 695 tons. There were 306,890 horses, 118,781 reindeer, 1,484,965 cattle, 1,080,028 sheep, and 224,480 pigs. The Government forests, covering 14,035,067 hectares, yielded a revenue of 2,250,666 marks, less 645,948 marks for working expenses. The production of iron ore in 1898 was 69,140 tons; of pig iron, 26,679 tons; of bar iron, 23,140 tons. The total value of imports in 1899 was 251,000,000 marks, and of exports 184,900,000 marks. The imports of cereals were 53,300,000 marks in value; of iron and iron manufactures, 18,300,000 marks; of machinery, 18,300,000 marks; of woolen manufactures, 12,100,000 marks; of cotton and cotton manufactures, 11,800,000 marks; of sugar, 8,400,000 marks; of coffee, 7,900,000 marks. The exports of timber were 98,200,000 marks; of butter, 23,600,000 marks; of paper and paper pulp, 17,700,000 marks; of iron and iron manufactures, 3,600,000 marks. The imports from and exports to different countries had in marks the following values:

COUNTRIES.	Imports.	Exports.
Russia.....	86,300,000	54,900,000
Germany.....	81,400,000	16,600,000
Great Britain.....	41,400,000	54,300,000
Denmark.....	11,500,000	14,800,000
Sweden and Norway.....	14,100,000	7,100,000
France.....	4,300,000	13,900,000
Spain.....	2,100,000	7,500,000
Other countries.....	10,000,000	15,800,000
Total.....	251,000,000	184,900,000

The number of vessels entered at the ports of Finland during 1899 was 8,185, of 1,998,893 tons, of which 5,469, of 851,428 tons, were Finnish; 693, of 103,426 tons, were Russian; and 2,023, of 1,044,039 tons, were foreign. The number cleared was 8,208, of 2,004,928 tons, of which 5,548, of 865,275 tons, were Finnish; 635, of 93,157 tons, were Russian; and 2,025, of 1,046,496 tons, were foreign. The mercantile marine consisted on Jan. 1, 1900, of 2,020 sailing vessels, of 271,338 tons, and 261 steamers, of 47,008 tons. The length of railroads belonging to the Government on Jan. 1, 1899, was 2,477 kilometers. The number of passengers carried in 1898 was 5,595,914; tons of freight, 1,888,871; capital cost, 217,231,085 marks; receipts, 22,004,274 marks; expenses, 14,385,844 marks. The number of letters and postal cards that passed through the post-office in 1898 was 15,126,163; parcels, 2,922,149; newspapers, 14,792,267; registered letters, 1,129,376; receipts were 2,838,361 marks, and expenses 2,346,761 marks.

In February, 1901, an order came from State-Secretary Plehwe for the delivery of the Finnish Government archives, which would be preserved

henceforth in the public archives at St. Petersburg. The Finnish officials declined to give them up without express permission from the Finnish Senate, but subsequently yielded. On Feb. 18, the anniversary of the promulgation of the manifesto of 1899 announcing that laws dealing with questions affecting imperial interests would be made by the Russian Government after taking the opinion of the Finnish Estates, popular demonstrations and disturbances took place in Helsingfors which had for their consequence the suppression or suspension of many Finnish and Swedish newspapers and the removal of the chief provincial and police officials, who were replaced by Russian military officers in direct violation of the constitutional principle that the administration of Finland shall be carried on with the assistance of native authorities only. The Imperial Government had, however, already made it clear that no provisions of the Finnish Constitution should stand in the way of the Russification of Finland. The military reform scheme, which was the chief cause of the conflict, was modified by the Russian Council of State, mainly on financial grounds presented by M. Witte. The new military service law for Finland, signed by the Czar on July 11, 1901, deprives the Finnish army of its national character, but does not require Finnish conscripts to serve or Finnish battalions to be incorporated in Russian regiments except those stationed in Finland or in the military district of St. Petersburg. Finns who are not required to fill up the Finnish regiments will be assigned to such Russian regiments, and Russians may be assigned to the Finnish regiments, described as regiments the ranks of which are preferably filled up by natives of Finland, and thereby they acquire Finnish citizenship. Russian officers who get commissions in these regiments which are substituted for the national army of Finland have the status of Finnish citizens while so serving. The office of commander-in-chief of the Finnish army is abolished, as well as the Finnish staff, and the command of all the Finnish troops is transferred to the commander-in-chief of the Russian regiments stationed in Finland. Officers and non-commissioned officers in Finnish regiments must possess a complete knowledge of the Russian language. These regiments may in peace or war be required to serve outside of Finland, either in Russia or abroad. The administration of the Finnish troops is transferred from the Finnish Senate to the Russian Ministry of War, who will fix the annual contingent of troops to be raised in Finland. For the immediate future Finns will not be drafted into Russian regiments, and the burden of military service in Finland will be lessened rather than increased, the number of recruits annually called up for service being diminished. Except the battalion of Finnish life guards and the regiment of dragoons, all the Finnish regiments were disbanded, and in 1901, instead of a contingent of 2,000 recruits, only 500 were called for. The Finnish Senate voted on Aug. 1 for the promulgation of the army law with only 4 dissenting voices out of 14. The Senators appointed by the Czar on the recommendation of Gen. Bobrikoff, the Russian Governor-General, no longer represent Finnish patriotic opinion. A deputation bringing an address in March from 92,000 persons in all parts of Finland was not received by the Senate, the address, calling upon the Senators to resist the military law and the introduction of the Russian customs tariff, being considered seditious. The majority of the Senators held that the decision of the Czar in imperial matters was final. In accepting the

military law the Senate addressed a memorandum to the Czar soliciting his assurance that the political institutions of Finland would be maintained. The Czar replied that the occasion was not suitable for new assurances as to the maintenance of the local institutions, of which his loyal subjects could not be in doubt; that the dissemination of disquieting apprehensions pointed rather to the necessity of maintaining public order by means of administrative measures. The Senators who voted against the promulgation of the military law were summarily dismissed for failure to comply with the Czar's orders. A law is promulgated in Finland by being read from the church pulpits. Most of the Lutheran pastors petitioned the Senate to be excused on conscientious grounds from publishing the military law. In every case where the law was read out from the pulpit the congregation sought to prevent its legal promulgation by leaving the church in a body. The Finnish Diet protested against the Czar's edicts, and the terms of the protest were embodied in a petition signed by 470,000 persons, in which the various infringements on the fundamental laws of the grand duchy that the military service law contains are detailed and declaring that the law would never be recognized as legal and binding by the Finnish people, who could not cease to remain a nation.

Dependencies.—Bokhara, in central Asia, became a vassal state in consequence of a holy war proclaimed against Russia by Muzaffereddin, the late Amir, in 1866. When peace was concluded Russia annexed the province of Syr Daria, and on Sept. 24, 1873, a new treaty was concluded by which the Amir accepted the suzerainty of Russia and agreed to admit no foreigner to his dominions not provided with a Russian passport. Seyid Abdul Akhad Khan, the present Amir, born March 26, 1859, succeeded to the throne on Nov. 12, 1885. The Russian resident is W. J. Ignatieff. The area is about 92,000 square miles, with a population estimated at 1,250,000. The city of Bokhara has 75,000 inhabitants. The Amir has an army of 11,000 men. The products of the country are grain, fruits, silk, tobacco, and hemp. The extension of the Russian Transcaspien Railroad to Tashkend traverses Bokhara, passing near the capital. Russian merchants pay a duty of 2½ per cent. ad valorem on both imports and exports.

The khanate of Khiva was invaded by a Russian force in 1872 on the ground that the Khivans had aided Kirghiz rebels. Seyid Mohammed Rahim, the Khan, born in 1845, succeeded his father in 1865. By the treaty of Aug. 25, 1873, the Khan renounced the right to enter into treaty relations with foreign powers or with neighboring rulers. The area is about 22,500 square miles, and the population is estimated at 800,000, half of it consisting of nomadic Turcomans. The war indemnity of 2,750,000 rubles exacted by Russia is being paid in annual instalments, in raising which the Khan frequently incurs the wrath of his subjects and must invoke the aid of Russian troops. His own force is about 2,000 men. Khiva exports annually about 50 tons of raw silk and 8,000 tons of cotton.

By a treaty with China, Port Arthur and Talienwan, with the adjacent country, were leased for a period of twenty-five years, which can be extended by mutual agreement. A ukase of Aug. 28, 1899, created this territory into a Russian province called Kwang-Tung. The civil authority and the command of the military and naval forces is entrusted to the Administrator-General, Vice-Admiral Alexieff. Chinese military forces have

been withdrawn from the leased territory and from a neutral zone adjacent, but Chinese jurisdiction is continued in the neutral territory, and in the leased territory Chinamen accused of crime must be handed over to the nearest Chinese official to be dealt with according to Chinese law. Port Arthur has been made a naval port for the Russian fleet, closed to the merchant and war-vessels of foreign nations, but not to Chinese war-

vessels. The harbor is being enlarged and naval docks are being constructed. A fortified naval port has been established also at Talienwan in a reserved corner of the harbor, the rest of which is an open commercial port. The new Russian town of Dalny at the southern extremity of the port is the terminus of the Manchurian Railroad to Mukden and Bedune, and is connected with Niuchuang by railroad.

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SALVADOR, a republic of Central America. The legislative power is vested in the National Assembly, a single chamber of 42 members, elected for each annual session by universal adult male suffrage. The President is elected by the direct popular vote for four years. Gen. Tomas Regalado was elected President for the term beginning March 1, 1899, and Dr. Prudencio Alfaro was elected Vice-President. The Cabinet at the beginning of 1901 was composed of the following members: Minister of Foreign Affairs and Justice, Dr. Francisco A. Reyes; Minister of the Interior, War, and Marine, Dr. Ruben Rivera; Minister of Public Charity and Education, Dr. J. Trigueros; Minister of Finance, Public Credit, and Public Works, Dr. F. A. Novoa.

Area and Population.—The republic has an area of 7,225 square miles and a population officially estimated in 1894 at 803,534, all of Indian or mixed race except about 20,000 whites descended from Spanish settlers and recent immigrants.

Finances.—The duties on imports and exports provide the bulk of the revenue. Excise duties, stamps, the gunpowder monopoly, the road tax, and registration fees are other sources. In 1898 the revenue was \$4,609,630, and the expenditure \$5,266,638.

The foreign debt, amounting to £726,420, was assumed in 1899 by the Salvador Railroad Company, which exchanged its securities for the Government bonds and undertook to complete the railroad to San Salvador, the capital, receiving from the Government a subsidy of £24,000 a year. The internal debt, on which the interest is 4 per cent., exceeds \$9,000,000.

Commerce and Production.—The cultivation of the soil is the main occupation of the people. Coffee is the most valuable product. The growing of cotton is encouraged by a bounty from the Government of \$1 on every centner exported. Indigo, sugar, rubber, balsam of Peru, and tobacco are other products. There are 180 mines and quarries, and the mineral resources include gold, silver, copper, iron, and mercury. Commercial statistics were not published by the Government after 1896, but in 1900 a decree was issued for the reestablishment of the statistical bureau. The coffee-crop in 1901 was unusually large. The indigo-crop was also abundant.

Railroads and Telegraphs.—The railroad from the port of Acajutla to Santa Anna and Ateos was extended to San Salvador by the English company that assumed the old railroad debt, which completed the work in May, 1900. Other lines are under construction.

There are 1,850 miles of telegraph-wires.

SALVATION ARMY. This organization, now world-wide, for religious and philanthropic work among the classes which are not reached by the churches, was begun by the Rev. William Booth, a Methodist local preacher, in 1865, as the East London Mission among the poor of the

English metropolis. The name was soon changed to "Christian Mission," and in 1878 the designation "Salvation Army" was adopted, and a military form of organization was instituted, with military discipline and military titles. The Salvation Army was established in the United States in 1880, and its introduction into France in the same year was the beginning of its operation in other than English lands. In 1890 Mr. Booth published his book *In Darkest England and the Way Out*, a study of the conditions of the poor in England, and of possible remedies for its evils, and sketched an extensive and comprehensive scheme for the relief of the suffering he had found to exist. The publication was followed by the contribution of liberal sums for carrying out the plans proposed, and a considerable number of them have been put into successful operation. Forty-six countries are now occupied by the Salvation Army, while its officers preach in 31 languages and its periodicals are published in 20 languages. By a decision recently given by the highest German courts, it has been placed among the religious societies recognized as such by the state and entitled to protection. The Salvation Army is most important in Great Britain, and next in America. It had in the United States, in October, 1901, 735 corps or posts, with 3,025 officers and other laborers, and 207 social institutions for the working classes, giving daily accommodation to more than 8,000 persons; while between 30,000 and 60,000 persons were recorded annually as publicly professing conversion. The receipts reported through the national headquarters in New York city for the year ending Sept. 30, 1901, were: For the General fund, \$82,634; for social and relief branches (dealing only with institutions in Greater New York and departmental expenses for national oversight), \$76,070; for the property section, \$29,177; for the Harvest Festival of 1900, \$22,536; on account of the Self-Denial fund, \$42,836; for the National Funeral fund, \$5,195; for the Disabled Officers' fund, \$17,707; for the Indian Mission and Famine fund, \$2,407; for the Winter Relief fund, \$12,878. The assets and liabilities were balanced at \$1,249,345, and the accounts of the trade department at \$80,548. The social institutions and agencies for the benefit of working people, the poor, and the unfortunate include, in the principal cities, shelters for homeless men in 24 cities; shelters for homeless women in New York, Chicago, Boston, and San Francisco; homes for clerks and artisans; homes for girls working in stores and offices; homes for children in New York and San Francisco and on the farm colony in Colorado; rescue homes for fallen women in New York, St. Louis, St. Paul, Grand Rapids, Detroit, and other cities; maternity homes in Philadelphia and Chicago; slum posts for visitation and meetings in New York (where 20 officers are set apart for work of this character), Boston, Chicago, Philadelphia, Providence, Cincinnati, Cleveland, and St. Louis; slum

crèches or day nurseries for children in New York, Cincinnati, and Chicago; cheap-food depots and cent meals; cheap clothing and second-hand stores, which are operated in Chicago, Philadelphia, Newark, N. J., Jersey City, Brooklyn, Boston, and other cities, have been very successful; salvage brigades for the collection of household and office wash; wood-yards; employment bureaus; Knights of Hope for prison visitation and ex-criminals; winter relief; medical relief, including free dispensaries; summer outings for the poor; Christmas and Thanksgiving dinners; Missing Friends and Inquiry Department; and farm colonies. Three of these farm colonies have been established—at Fort Amity, Col., where the tract consists of 25,000 acres and great success has been attained in raising cantaloups, sugar-beets, and other crops; Fort Romie, in California; and Fort Herrick, in Ohio.

The report of similar benevolent work in England for the twelve months ending with December, 1900, mentions 188 food depots and shelters for men and women, providing 14,041 sleeping accommodations, at which 3,946,000 beds and 6,137,000 meals were supplied during the year; 60 workshops and salvage brigades for temporary employment of persons out of work, where 48,512 persons were given work; 36 labor bureaus, at which 6,367 persons found situations; 17 children's homes and day nurseries, sheltering 23,425 children; 12 farm colonies, occupying 25,562 acres of land and having 650 colonists, including men, women, and children; 132 slum posts; 11 homes for ex-criminals, supplying 382 accommodations, and through which 1,626 ex-criminals passed during the year, with 1,393 "satisfactory" cases; 94 rescue homes for fallen women, with accommodations for 1,937, sought during the year by 5,158 girls, 3,449 of whom proved satisfactory cases; 1,604 missing persons found during the year; and 59 other social institutions. These 609 institutions were cared for by 2,294 officers and other laborers. It is represented that at least 20 per cent. should be added to these figures on account of recently opened institutions from which returns were not complete. The total income of the Salvation Army is represented to be considerably more than £1,000,000 sterling a year, and its voluntary workers to number several hundred thousand persons.

SAMOA, a group of islands in the Pacific, formerly a kingdom under the joint protection and control of Germany, the United States, and Great Britain, divided by treaty in 1900 between Germany and the United States. Islands lying west of the meridian of longitude 171° east of Greenwich belong to Germany and islands lying east of that meridian to the United States. The Samoan act guaranteeing the independence and neutrality of the islands was signed at a conference at Berlin in 1889. The arrangement, though attended with much friction and general dissatisfaction, endured till after the death of King Malietoa Laupepa, in 1898. Trouble arose over the succession, and a joint commission recommended the abolition of the kingship. In November, 1899, Great Britain made an agreement with Germany renouncing all political rights over the islands of Savaii and Upolu in favor of Germany and over the island of Tutuila in favor of the United States. This was subject to its acceptance by the United States, which was signified in January, 1900.

The German Islands.—Savaii has an area of about 660 square miles and an estimated population of about 14,000; Upolu an area of 340 square miles and a population of 18,000. Both

islands are mountainous and have a fertile volcanic soil well supplied with water, as are the small islands adjacent. About 200 New Zealanders and British and 150 Germans, besides many Americans, Frenchmen, and other foreigners, resided on the islands when the Germans took possession. Apia, the seaport and trading center, had a municipality with a German at its head under the condominium. This official, Dr. Soli, was appointed Governor when the German protectorate was established. The inhabitants are a branch of the Polynesian race. They profess Christianity, part of them the Catholic and part the Protestant faith, and some are Mormons, but they are still influenced by heathen superstitions. The expenditures of the administration were estimated in 1900 at 252,000 marks and the local receipts at 200,000 marks, the Imperial Government contributing 52,000 marks.

Tutuila.—The island of Tutuila, which came into the possession of the United States in accordance with the Anglo-German agreement, has an area of 54 square miles and about 3,800 inhabitants. Manua and the other small islands in the American part of the group have an area of 25 square miles and probably 2,000 inhabitants. Tutuila is mountainous, exceedingly fertile, well wooded, and in its scenery and vegetation, its natural resources, and the character of its people, it is the most interesting, attractive, and promising island of the Samoan group. American traders and missionaries have long been active in the islands. American interests were relatively more important before the commercial expansion of New Zealand and the development of the copra trade by the Germans. The political interest of the United States Government in the islands began when the King was induced in 1872 to cede to the United States the harbor of Pago Pago for a naval and coaling station, less with a view to its immediate utilization than with that of preventing an impregnable natural stronghold within cruising distance of the American coasts from falling into the hands of another naval power. Under the joint protectorate it was provided that an American citizen should fill the office of chief justice in Samoa. The decision of Chief-Justice William Chambers in favor of the claim of Malietoa Tanu to the throne and against that of the ex-rebel Mataafa, although the latter had the strongest party among the natives, precipitated the civil strife of 1898. It was then that the American naval authorities first occupied Pago Pago. This landlocked harbor on the southern side of the island is the only safe one in Samoa, the best and most capacious in the Pacific, and one of the most defensible and suitable for a naval base in all the world. Commandant B. F. Tilley was appointed administrator of the American islands. Civil government was established in every part, but the native customs were not disturbed, nor the authority of the native chiefs.

All cases tried by native magistrates are reviewed by the High Court, and the native governors and other officials make careful reports to the administrator. A census taken of the population of the American islands in March, 1901, showed a total population of 5,800, a slight increase over the population in 1871. Infant mortality is excessive owing to the ignorance of the people, who since the American occupation have received medical advice and treatment for the first time and are subject to sanitary laws which are likely to lessen mortality. No intoxicating liquors are allowed to be sold to either natives or whites in Tutuila and Manua.

SANTO DOMINGO, a republic in the West Indies, occupying the eastern part of the island of Haiti. The Congress is a single chamber of 24 members, elected by direct qualified suffrage for two years. The President is chosen by an electoral college and serves four years. Gen. Juan I. Jimenez was elected President of the republic and Horacio Vasquez Vice-President for the term ending in 1903. The Cabinet at the beginning of 1901 consisted of the following secretaries of state: Interior and Police, Gen. J. Pichardo; Foreign Affairs, Enrique Henriquez; Justice and Public Instruction, S. E. Valverde; Fomento and Public Works, Gen. T. Cordero; Finance and Commerce, J. de J. Alvarez; War and Marine, Gen. T. D. Morales; Posts and Telegraphs, Gen. J. R. Vidal.

Area and Population.—The area is estimated at 18,045 square miles, and the population at 610,000, mostly of mixed white, Indian, and negro blood. Spanish is the language of the country, but in the towns many speak French or English. There are about 300 elementary schools, with 10,000 pupils in attendance.

Finances.—The revenue in 1895 was \$1,382,500, and expenditure \$1,351,250. In 1896 the revenue was \$1,545,450; in 1897, \$1,601,294; in 1898, \$1,550,294. In 1897 the foreign debt was converted into £2,736,750 of 2½-per-cent. bonds and £1,500,000 of 4-per-cent. bonds, both classes secured on the customs duties and other revenues, the collection of which was placed under the control of the Santo Domingo Improvement Company of New York. The Government of Gen. Jimenez was dissatisfied with the arrangement made with this company, and on April 1, 1899, default was made in the payment of interest. In 1901 the Government took the collection of duties into its own hands. Other foreign debts amount to £107,310, and there are internal debts of which \$2,845,550 are payable in gold and \$10,126,629 in silver.

Commerce and Production.—The imports in 1897 were valued at \$1,702,568 in gold, and exports at \$4,675,939; in 1898 the imports at \$1,696,280, and exports at \$5,789,997; in 1899 the imports at \$1,669,994, and exports at \$4,166,617. The export of sugar in 1898 was 49,300 tons, and in 1899 it was 50,963 tons; the export of mahogany was 929,980 feet in 1898 and 833,273 in 1899; the export of logwood was 2,182 tons in 1898 and 972 tons in 1899; the export of tobacco was 7,535 tons in 1898 and 3,999 tons in 1899; the export of coffee was 2,616,908 pounds in 1898 and 3,386,886 pounds in 1899; the export of cacao was 7,578,438 pounds in 1898 and 5,807,640 pounds in 1899. The export of bananas in 1898 was 469,000 bunches. The exports of hides, wax, honey, divi-divi, and rum are less important. The chief imports are cotton goods, hardware, and provisions. The United States has the largest share in the trade, the other West India islands have a good part, and of the imports, Spain and France contribute a large portion, while of the exports Germany and Great Britain take a valuable share. The number of vessels that were entered at Puerta Plata in 1899 was 162, of 157,106 tons.

Railroads, Posts, and Telegraphs.—There are 116 miles of railroad in operation, and new lines and extensions have been begun.

The post-office in 1898 handled 396,941 pieces of internal and 238,897 pieces of foreign mail-matter.

The length of telegraph-lines completed is 430 miles, and others are under construction.

SERVIA, a monarchy in southeastern Europe. The legislative power is vested in a single cham-

ber, called the Skupshtina, containing 1,898 members, elected by all adult male Servians who pay 15 dinars a year of direct taxes. The reigning King is Alexander I, born Aug. 14, 1876, who succeeded on March 6, 1899, to the throne upon the abdication of his father, Milan I, and assumed the royal authority on April 13, 1893. On Aug. 5, 1900, he married Draga Maschin, born Sept. 23, 1867. The Cabinet in the beginning of 1901 was composed as follows: President of the Council and Minister of Foreign Affairs, Alexa S. Yovanovich; Minister of the Interior, Laza Popovich; Minister of Justice, Nastas Antonovich; Minister of Finance, Dr. Mika M. Popovich; Minister of War, Lieut.-Col. M. Vassich; Minister of Public Works, Lieut.-Col. Andreas Yovanovich; Minister of Commerce, Agriculture, and Industry, D. Spassich; Minister of Public Instruction and Worship, P. Marinkovich.

Area and Population.—The area of Servia is 19,050 square miles. The population in 1895 was 2,312,484, mainly a farming people, only 13.3 per cent. of the total being dwellers in towns. There were 2,083,482 Serbs, 159,510 Roumanians, 46,212 gipsies, 6,437 Germans, 5,048 Jews, 3,731 Slavs of various races, 1,962 Magyars, and 6,102 others.

Finances.—The revenue in 1901 was estimated at 74,018,070 dinars, or francs, of which 28,220,000 dinars were derived from direct taxes, 6,336,400 dinars from customs, 4,380,000 dinars from excise, 3,390,000 dinars from law courts, 20,148,970 dinars from monopolies, 9,496,500 dinars from public works, and 2,046,200 dinars from other sources. The expenditure was estimated at 73,992,543 dinars, of which 1,200,000 dinars were for the civil list, 20,095,150 dinars for interest on the public debt, 1,560,000 dinars for dotations, etc., 454,310 dinars for the Skupshtina, 406,500 dinars for general credits, 2,950,365 dinars for pensions and subventions, 1,792,228 dinars for the Ministry of Justice, 1,802,715 dinars for the Ministry of Foreign Affairs, 9,246,869 dinars for the Ministry of Finance, 17,602,700 dinars for the Ministry of War, 3,401,031 dinars for the Ministry of Instruction and Worship, 3,588,929 dinars for the Ministry of the Interior, 8,044,847 dinars for the Ministry of Public Works, 1,486,547 dinars for the Ministry of Commerce and Agriculture, and 360,352 dinars for the court of accounts. The revenue collected in 1899 was 72,100,000 dinars, exceeding the estimates of 3,300,000 dinars. The budget for 1902 makes the revenue 72,820,000 dinars and the expenditures 72,815,000 dinars, a saving in expenditures of 1,175,542 dinars. The army budget, although containing a special appropriation of 1,700,000 dinars for armaments, is 3,000,000 dinars less than in 1901 and over 5,000,000 dinars less than in 1900.

The public debt on Jan. 1, 1900, amounted to 424,725,713 dinars, 351,551,993 dinars being the converted loan of 1895 paying 4 per cent. interest, 29,445,000 dinars the lottery loan of 1881, 9,795,500 dinars the loan of 1886, 3,750,000 dinars the Russian loan, 10,424,500 dinars loans secured on the tobacco and salt monopolies, 844,500 dinars a loan for a local railroad, 8,314,720 dinars a loan from the Bank of Servia, and 10,980,000 dinars a loan raised in 1899 at 5 per cent. There was in addition a floating debt formed by deficits year after year, which in 1901 amounted to 44,000,000 dinars.

The Army.—The active army, according to the estimate for 1901, consists of 661 officers and 14,000 men in the infantry, 101 officers and 1,400 men in the cavalry, 270 officers and 4,000 men in the artillery, 65 officers and 1,000 men in the engineers, and 151 officers and 800 men in the

train, sanitary corps, etc.; total, 22,448 officers and men. By mobilizing the reserves the strength can be brought up to 110,245 men in the 5 divisions, 14,863 independent cavalry, mountain, siege, and fortress artillery, pioneers, railroad troops, etc., and 35,643 depot troops; total, 160,751 men. The first ban of the militia contains 126,610 men and the second 66,005, making the total fighting strength 353,366 men. A scheme of army reform approved by the Skupshtina in 1901 reduces the period of service with the colors to eighteen months for the infantry while retaining the two years' period for the cavalry and artillery. The army consists of the regular national army, divided into 3 bans and comprising all able-bodied Servians between the ages of twenty and forty-five, and the Landsturm, comprising all between the ages of seventeen and twenty and the ages of forty-five and fifty. This Landsturm adds to the military strength of the nation a new reserve which in case of mobilization is destined for garrison duty. Students have to serve in the army only six months. A superior council of war was created by royal decree on Sept. 4, 1901, consisting of the Minister of War and 9 members, appointed for three years, whose duty it is to study and report on all matters concerning the organization, formations, and armament of the army, works of fortification, and schemes of mobilization which are laid before the council.

Commerce and Communications.—The soil of Servia is divided into farms owned by the cultivators, most of them from 10 to 30 acres in size. There were 293,421 owners in 1897. Corn occupied 448,334 hectares, grass 355,051, wheat 279,743, oats 100,087, prunes 97,971, barley 14,940, vines 60,000, hemp 8,198, tobacco 1,500, and flax 956 in 1897. The export of wheat in 1899 was 355,559 quarters; of barley, 103,822 quarters; of corn, 121,150 quarters. The export of dried prunes was 40,529 tons, and nearly as great a quantity was consumed in the distillation of prune brandy. The fruit is also exported fresh and made into preserves. Sheep, pigs, and cattle are exported in large numbers. There are 481,213 acres of forest from which barrel staves are obtained for export to the wine districts of Hungary and France. Flour-mills, breweries, and a few other manufactories exist, and to encourage their multiplication the Skupshtina voted in 1898 to give for new industrial enterprises free sites, exemption from customs duties and taxation, facilities for the purchase of fuel, a 25 per cent. reduction in freight rates, and a preference in the allotment of public contracts. Coal, iron, lead, zinc, quicksilver, antimony, asbestos, and copper are found, and concessions have been granted for gold-mining.

Political Events.—The Skupshtina met on Jan. 12, 1901, and listened to a speech from the throne, in which the King's marriage, an expected heir, the Czar's friendship, good relations with Austria, Turkey, and other states, and ridance from the former Government which had brought the country to the verge of anarchy, and from ex-King Milan, who had quit Servia forever, were described as omens of a better future, and the budget of 1901 was praised as clearing the way by serious and important economies for the restoration of the equilibrium of the public finances. A bill was passed for the reform of the judiciary, making judges irremovable and entrusting their selection to a board composed of the supreme court judges, the Minister of Justice, and the dean of the juristic faculty of the university, which shall propose their names to the King for appointment. The southwestern part

of the state copper-mines at Majdanpek were granted to King Alexander as a token of the devotion of his people. When King Milan died he was buried in Austrian ground, according to his last wish, although King Alexander begged to have his father's remains brought to Belgrade.

A Metropolitan named by Servia, Nicéphorus, was accepted by the Porte and consecrated in Constantinople on Feb. 3. On Feb. 18 the Cabinet was reconstructed. The Prime Minister took the portfolio of Justice, relinquishing that of Foreign Affairs to Dr. Michael Vuich. Nicola Stefanovich became Minister of the Interior. Mika Popovich was appointed Minister of Commerce *ad interim*. Of the new ministers one was a Radical and one a Progressist. The change facilitated the transition to a Radical Cabinet with a distinctly Russophil policy, and was viewed therefore with displeasure in Vienna. The Austro-Russian *entente* for the maintenance of the *status quo* in the Balkan peninsula was not involved in any change of Government in Servia or the other Slav states. Whatever racial bonds and political gratitude and sympathy are felt in Servia for Russia, the country must remain on good terms with Austria-Hungary, on which it is economically dependent. The King and his ministers consulted with the leading men of all parties about a new Constitution to be framed on liberal lines, guaranteeing complete freedom of elections, liberty of the press, freedom of thought, conscience, and religion, and the right of assembly and of association. The security of officials in the tenure of their offices, as well as the life tenure of judges, was one of the proposals of the Yovanovich Cabinet. The reorganization of the army was another. A revision of the income tax and a new administrative partition of Servia were also in the program.

On April 3 a further transformation of the Cabinet took place. Dr. Michael Vuich was made Minister-President; Peter Velimirovich, Minister of Public Works; Dragutin Stamenkovich, Minister of Justice. The Cabinet was now composed of 4 Radicals, 4 Progressists, and 2 neutral members. The new Constitution was promulgated on April 19. A Grand Skupshtina was not summoned to construct the new Constitution, as the existing Constitution prescribed, because such an assembly would waste valuable time. The King preferred to grant the Constitution to the people, and considered that in so doing he was the more bound to respect it scrupulously forever. The ministers formally tendered their resignations and were reappointed. The King in a proclamation said he was resolved that the new Constitution should establish regular relations between the legislative and the executive power and secure a permanent system of government based on strict legality and civil liberty. The Constitution settles the form of government, the powers of the King and of the state, the rights of subjects, and the working of the national representation, but it leaves details to be arranged by legislation. The power of the executive is far more extensive than under the last Constitution, that of 1888, yet it can not be exercised summarily by the method of decrees, as the Constitution of 1869 allowed, but only by regular legislation accepted and approved by the King, the Senate, and the Chamber of Deputies. In the Chamber the intelligent classes have a greater proportional representation than the Constitution of 1888 gave them. The Senate, which is a new institution in Servia, consists of the Crown Prince, if of full age, the Metropolitan of Servia, the Bishop of Nish, 30 members nominated for life by the King, and 18 members elected by the people, 1 in each rural

electoral district and 2 in Belgrade, the payment of 45 dinars in taxes giving the right to vote, while candidates must have property on which they pay 200 dinars a year in direct taxes and have the age of forty years. It is the business of the Senate to revise and improve the laws elaborated in the Chamber of Deputies. Special and class tribunals are henceforth forbidden in Servia. For the Chamber of Deputies the electoral qualifications are the same as they have been for the Skupshtina under both of the former Constitutions. To be elected one must be thirty years old and pay 60 dinars of taxes.

On May 10 M. Marinkovich and Lieut.-Col. Vassich resigned from the Cabinet, and the King appointed Prof. Kovatchevich Minister of Public Worship and Education and Col. Yankovich Minister of War. This reduced the number of Progressists by half, leaving only half as many of them as there were Radicals. King Alexander and the Servian people were disappointed in their expectation that Queen Draga was about to give birth to a child, the mistake having arisen through an erroneous medical diagnosis. The first elections for the Skupshtina under the new Constitution took place on Aug. 4. The result was a striking victory for the Government and the section of the Radical party supporting it. In a house of 130 members the Ministerialists won 110 seats, 84 of them belonging to Radicals and 26 to Progressists, while the Opposition consisted of 14 Independent Radicals and 6 Liberals. The senatorial elections were held on Aug. 18. The elective Senators hold their seats for six years. The Liberals, who were opposed from the beginning to a second chamber, took no part in the voting, and the other parties manifested little interest. Every one of the elected belonged to the ministerial wing of the Radical party. The King had already nominated the life members, taking them from the Radicals of the Vuich and Milovanovich section and from the Progressists in something like the same proportion in which they were represented in the Cabinet. The Skupshtina was opened on Oct. 20. Acts of violence committed by Albanians upon the Serbs of Old Servia were spoken of as regrettable in the speech from the throne and more sharply censured in the address in reply. The Macedonian committee, which had extended its operations to the northern frontiers of Albania, stirred the resentment of the Mohammedans of Novi Bazar, who made no distinction between the different kinds and races of Christians. The local authorities were indulgent toward the Albanian population, which ordinarily is peaceful and industrious, but who now were discontented with the Turkish Government because instead of the tithes a heavier tax had been imposed requiring an eighth of the produce of the soil and the increase of flocks and herds. Quarrels had also arisen between the Albanians and the Montenegrins inhabiting the Servian frontier. The Porte immediately took energetic measures when the troubles broke out. (See TURKEY.) The Servian Government took no active steps, being anxious to avoid misunderstandings that might arise at such a delicate point of the frontier, but prepared for an emergency by preparing to send reinforcements to the frontier guard.

SEVENTH-DAY BAPTIST CHURCH.—

The statistical reports of this Church made to the General Conference in August, 1901, give the following footings: Number of churches, 116, of which 84 made reports; of ministers and missionary pastors, 122; of licentiates, 2; of members reported, 9,257; of Sabbath-keeping residents, 10,-

575; amount of money raised for all purposes, including personal gifts, \$50,409. Of the churches, 2 were in England, 1 in Shanghai, China, 2 in Holland, 1 in Denmark, 1 in Germany, and 2 in Africa. Sixty-nine reporting out of the 88 Sabbath-schools returned 6,354 members, with about \$2,291 as the amount of money raised. The Young People's Societies of Christian Endeavor reported 2,036 general and 811 junior members, with total contributions of \$1,879. The Education Society returned receipts and expenditures of \$2,501, a principal account of \$6,316, and endowment funds of \$43,961. The denominational institutions concerning which reports were made include Salem College, Milton College, Wis., Alfred University, N. Y., and the Theological Institution. The Tract Society had received \$15,451 and had a permanent fund of \$4,400. The society maintained a publishing house at Plainfield, N. J., and branch offices at Columbus, Ga., Peticoadiac, New Brunswick, and Milton Junction, Wis.; published a newspaper and Sunday-school helps; assisted in the publication of a paper at Haarlem, Holland; and was engaged in the publication and circulation of tracts. The Missionary Society had received \$15,308, and returned permanent and other funds and property approaching \$50,000 in value. Besides local home missions and the special work of evangelists and "student quartets" (76 workers in all), it returned 4 missionaries and 11 native helpers at Shanghai, China, 2 native workers on the Gold Coast in Africa, and 2 workers at Haarlem and Rotterdam, Holland. An industrial mission had been opened in Africa by the Sabbath Evangelizing and Industrial Association, which had received \$12,259, and had stationed 2 agents at Cholo, British Central Africa. The Woman's Board, formed in 1881, had assisted in the support of missionaries in the work of the Tract Society, and in the cause of education.

The Seventh-Day Baptist Memorial fund, applied to educational and benevolent objects, amounted to \$325,739.

The ninety-ninth General Conference met in Alfred, N. Y., Aug. 28. The Rev. Earl P. Saunders was chosen president. The Committee on Denominational History reported progress in collecting the publications of Seventh-Day Baptist people and supplying them to institutions, and gathering and preserving manuscripts, documents, portraits, etc. In view of the next year being the one hundredth anniversary of the General Conference, a special program was prepared for a centennial celebration to be held by the conference meeting at Ashaway, R. I.

SOUTH AFRICA. With the conquest of the two Boer republics the whole of South Africa becomes British territory excepting the coast regions belonging to Portugal in the east and west and the unproductive sphere of Germany in the southwest. British South Africa thus expanded has an area of about 1,000,000 square miles, of which 700,000 square miles are south of the Zambesi, for the most part already provided with civilized institutions and exceedingly productive, and 300,000 square miles are a promising region of great natural agricultural and mineral wealth extending from the Zambesi northward to the boundaries of German East Africa and the Congo Independent State. The export trade of South Africa in 1898 amounted to £25,730,000, of which £20,528,000 stand for minerals.

Cape Colony.—The colony of the Cape of Good Hope has had responsible government since 1872. The legislative power is vested in a Legislative Council of 23 members elected for seven years and a House of Assembly of 95 members elected

for five years. The electoral franchise is possessed by adult males who occupy house property of the value of £75 or receive a salary of £50 a year, and are able to write their names, occupations, and addresses on the register. There were 119,748 registered voters in 1899. The Governor, appointed by the Crown, appoints ministers from the majority party in the Cape Parliament. The Governor in 1901 was Sir Walter F. Hely-Hutchinson. The ministry was composed as follows: Prime Minister and Treasurer, Sir Gordon Sprigg; Colonial Secretary, T. L. Graham; Attorney-General, R. Rose-Innes; Commissioner of Public Works, Dr. J. W. Smart; Secretary of Agriculture, Sir Pieter Faure; without portfolio, J. Frost.

The colony, including Pondoland and British Bechuanaland, annexed in 1894 and 1895, has an area of 275,775 square miles. The colony proper and Griqualand West, having an area of 206,613 square miles and 366,618 European and 663,252 colored inhabitants in 1891, contain 77 divisions. East Griqualand, Tembuland, the Transkei, Wal-fish Bay, British Bechuanaland, and Pondoland, having comparatively few white inhabitants, are governed as native territories. The number of marriages registered in the colony in 1899 was 8,506; of births, 14,966 Europeans and 38,777 colored; of deaths, 6,687 Europeans and 30,200 colored. The number of arrivals by sea in 1899 was 26,510, and of departures 28,381.

The revenue of the colonial Government from all sources in 1899 was £8,781,212, of which £2,358,674 came from taxation, £3,469,019 from services, £321,074 from the colonial estate, £168,807 from fines, stores issued, etc., and £2,317,434 from loans. The total expenditures were £8,190,124, of which £1,310,446 were for the public debt, £2,036,944 for railroads, £307,715 for defense, £538,438 for police and prisons, £182,389 for the civil establishment, and £1,265,599 under the loan acts. The expenditures voted for 1901 were £6,888,352.

The Cape mounted rifles, whose normal strength is 1,003 officers and men, is the only colonial military force except the Cape police, numbering 1,990 officers and men, and the volunteers, who in 1898 numbered 6,953. A garrison is kept at the naval fortress of Simons Bay by the Imperial Government, which expended £306,308 for military and £200,000 for naval purposes in 1898.

The value of imports of merchandise into Cape Colony in the year ending June 30, 1899, was £14,561,373; total imports, including specie, £19,207,549; exports of colonial produce, £22,831,386; total exports, £23,662,538. The exports of gold were £13,815,683, against £15,394,442 in 1898, £10,991,926 in 1897, £8,252,543 in 1896, and £7,975,637 in 1895. The exports of diamonds from 1867 to 1899 have amounted to £92,013,567. In 1899 the diamond exports were £4,135,583, against £4,566,897 in 1898, £4,454,000 in 1897, £4,646,487 in 1896, and £4,975,637 in 1895. The value of wool exported in 1899 was £2,183,904; of ostrich feathers, £842,000; of Angora hair, £779,899; of copper ore, £446,985; of hides and skins, £408,282; of grain and meal, £22,487; of wine, £19,224. The imports of textile fabrics and clothing in 1899 were valued at £3,941,838; of articles of food and drink, £3,704,745. The total value of imports for the year ending June 30, 1900, was £22,800,026, including £2,640,068 of specie, against £4,646,628 in 1899. The exports were £9,848,472, showing an increase of about £2,500,000 in diamonds and a decrease of £4,000,000 in gold.

The number of vessels that entered at ports of Cape Colony during 1899 was 1,118, of 3,324,147

tons, besides 1,304 coasting vessels, of 4,213,079 tons; cleared in the foreign trade, 1,070 vessels, of 3,175,855 tons; cleared coastwise, 1,302, of 4,257,976 tons. The merchant marine of the colony on Jan. 1, 1900, consisted of 31 steamers, of 5,483 tons, and 6 sailing vessels, of 453 tons.

The Government up to Dec. 31, 1899, had expended £20,930,573 in the construction of railroads. There were 1,990 miles completed and 500 miles building in the Government system, outside of which there were 400 miles of private lines. The average cost per mile of the Government lines was £10,517. The number of passengers carried in 1899 was 11,006,870; tons of freight, 1,260,038; gross earnings, £2,792,975; working expenses, £1,830,321. The net earnings in 1900 were 6½ per cent. on the capital.

There were 7,360 miles of telegraph-lines in the colony on Jan. 1, 1900. The number of messages in 1899 was 2,582,451; receipts, £148,059; expenses, £156,666.

The Cape Parliament was not convened in 1901. Most of the colony was under martial law, which was extended eventually to Cape Town and the other seaports and embraced the whole colony. Many of the members of Parliament who belonged to the Afrikaner Bond were either fugitives from the country or under arrest or unseated in consequence of conviction for treason or sedition. Still the Progressive party could count only on a bare majority which would disappear if free elections were held for the vacant seats. A large proportion of the voters were fighting in the field on one side or the other. Mr. Rose-Innes resigned the attorney-generalship in May to accept a post in the civil government of the Transvaal Colony. As no provision had been made for public expenditure after June 30 the Governor by advice of the ministers issued warrants for the levying of taxes, relying on a bill of indemnity. Parliament was prorogued repeatedly.

Natal.—Members of the Legislative Council in Natal are nominated for ten years by the Governor with the advice of the ministers. There are 12 members, 1 of whom represents Zululand, which was annexed to the colony in 1897. The Legislative Assembly contains 39 members, 2 of them representing Zululand. The members are elected for four years by adult males qualified by the possession of real estate worth £50 or paying £10 rent or having an income of £96. There were 11,115 electors in 1898. The Governor is Col. Sir Henry Edward MacCallum, who entered on his duties in March, 1901. The ministry at the beginning of 1901 was composed as follows: Premier and Minister of Lands and Works, Lieut.-Col. Sir A. H. Hime; Attorney-General and Minister of Education, H. Bale; Secretary for Native Affairs, F. R. Moore; Colonial Secretary, C. J. Smythe; Treasurer, W. Arbuckle; Minister of Agriculture, H. D. Winter.

The colony, with the province of Zululand, has an area of 35,019 square miles. The population in 1898 consisted of 53,688 Europeans, 61,103 East Indians, and 787,574 Kaffirs; total, 902,365.

The revenue for the year ending June 30, 1899, was £2,081,349, and expenditure £1,914,724. The revenue from railroads was £1,053,411; from customs, £436,917; from the native hut tax, £135,409; from the post-office, £59,403; from port and wharf dues, £56,290; from sales of public lands, £46,890; from stamps and licenses, £33,629; from excise, £28,293; from telegraphs, £26,623. The expenditure on railroads was £677,755; on public works, £168,470. The expenditure out of loans was £381,047. The amount of the public debt on June 30, 1899, was £9,019,143. The de-

fensive forces are the mounted police, numbering 659, who cost the Government £172,287 in 1899, and 1,151 volunteers, for whom the Government contributed £46,095.

The main crop of the colony is sugar, raised by European planters with native and Indian labor. Tea has been planted on 2,666 acres. The Europeans cultivate altogether only 157,370 acres, although 7,000,000 acres in the colony proper have been conveyed by grant or purchase to Europeans and 1,750,000 acres sold to settlers on instalments, leaving only 1,153,400 acres still belonging to the Government besides 2,500,000 acres reserved for the natives. The area tilled by natives is 360,232 acres; by Indians, 24,725 acres. In Zululand, 200,000 acres of the total area of 6,700,000 acres have been alienated. Corn is grown extensively by the natives, and the colony produces wheat and other cereals. The total value of imports in 1899 was £5,359,259, and of exports £1,325,197. The chief exports were wool of the value of £608,711; gold, £402,696; coal, £155,043; sugar, £147,499; hides and skins, £65,157; bark, £57,885; Angora hair, £39,964. During 1899 there were 734 vessels, of 1,397,306 tons, entered and 716, of 1,381,346 tons, cleared. The merchant marine comprised 14 sailing vessels, of 699 tons, and 14 steamers, of 2,495 tons. There are 591 miles of Government railroads, built at a cost of £7,267,588; receipts in 1899 were £940,100, and expenses £628,942. On July 26, a railroad 77 miles in length from Durban to Port Shepstone on the south coast was opened. A line from Pietermaritzburg to the border of Cape Colony near Riverside was approved by Parliament. The Natal Parliament met on May 17. A loan of £3,000,000 for improving Durban harbor and for railroads and other public works was authorized. War expenditure for the coming year was estimated at £850,000. The colony would pay £360,000 for the volunteers. The total expenditure, estimated at £4,384,335, included £1,500,000 out of loans for reproductive works.

Bechuanaland Protectorate.—The territory between the Molopo and the Zambesi rivers, having an area of about 213,000 square miles and 200,000 population, is a protectorate governed by the native chiefs under the supervision of a British Resident Commissioner. Palachwe, the town of Khama, the principal chief, has 25,000 inhabitants. The natives raise cattle and cultivate the ground. Spirits are not permitted to be sold. The revenue in 1897 was £47,511, and expenditure £88,448. The hut tax is collected by the native chiefs. The mounted police in 1897 numbered 12 officers and 115 men, and the native police 60.

Rhodesia.—The territories administered by the British South Africa Company, which obtained a royal charter in 1889, are brought under the control of the Colonial Office in London by the order in Council of Nov. 25, 1898, which confers also the beginnings of representative government. A Resident Commissioner is appointed by the British Secretary of State for the Colonies, whose approval is necessary for the appointment of the company's administrators and judges and the members of the Executive Council, of whom not fewer than 4 are nominated besides the Resident Commissioner and the administrators of Matabeleland and Mashonaland. The Legislative Council is composed of the same officials, 5 members nominated by the company and approved by the Secretary of State, and 4 members elected by the registered voters. Estimates of revenue and expenditure are submitted by the administrator to the Legislative Council, and when sanctioned

by that body must be referred to the High Commissioner. Ordinances passed by the administrator and Legislative Council go into operation after they receive the approval of the High Commissioner, but they may be revoked by order of the Secretary of State at any time within a year. There is a Secretary of Native Affairs, and natives enjoy the same legal rights as whites except that they may not obtain arms, ammunition, or liquor. Lands are reserved for them, and if these are taken by the company for mining purposes, new locations must be found for the tribes that are dispossessed. The military police are under the direction and control of the High Commissioner. The Resident Commissioner in 1901 was Lieut.-Col. Sir Marshal J. Clarke, and the company's administrator in Mashonaland was W. H. Milton.

The river Zambesi forms the boundary between Northern Rhodesia and Southern Rhodesia. In Southern Rhodesia, comprising Mashonaland and Matabeleland, are the settlements of whites and the mines that attracted them. Its area is estimated at 192,000 square miles. Matabeleland, with a native population of 148,000, had 8,835 European settlers in 1900, and Mashonaland, with 302,000 natives, had 3,130. The high plateaus in the latter province are believed to be adapted for European pastoral and agricultural settlements. The gold-fields of Rhodesia, extending through both provinces, are estimated to have an area of 5,240 square miles. There were 220 mining companies in 1900, but the amount of gold produced up to the end of that year did not exceed 166,000 ounces. A company has been formed to dig coal in Wankies, near the Zambesi river, where the coal-fields have an extent estimated at 400 square miles. Besides Salisbury, the capital, Buluwayo, Umtali, Victoria, Gwelo, Enkeldoorn, Melsetter, and Rusapo have been organized as townships. The Rhodesian Railroad, being the continuation from Vryburg to Buluwayo of the railroad from Kimberley, earned £99,290 net in 1898, exclusive of the subsidies of £20,000 from the Imperial Government and £10,000 from the British South Africa Company. The line is to be extended first to the Wankies coal-fields and the falls of Zambesi, afterward through Northern Rhodesia to Lake Tanganyika, and ultimately it is planned to carry it through German territory into British East Africa to connect with a line continued up the Nile through the Egyptian Soudan to Uganda, thus giving continuous rail communication from Cape Town to Alexandria. A branch of the Rhodesian Railroad is to be constructed from Buluwayo south to Gwanda, 80 miles, to be extended later to Tuli. The railroad from Beira, on the coast of Portuguese East Africa, to the frontier station of Umtali was continued in the spring of 1899 to Salisbury. A line from Salisbury to Buluwayo is under construction. A railroad 300 miles long beyond the Victoria Falls is proposed, to tap a country rich in copper and pass through coal-fields.

The Rhodesian post-office in the financial year 1900 forwarded 610,510 letters and postal cards to points in South Africa and 223,847 to places beyond seas, 207,982 newspapers, books, and parcels altogether, and 29,840 registered letters and parcels; revenue, £18,167; expenditure, £26,122. The telegraph-lines have a length of 3,451 miles; number of paid despatches in 1900 sent and received, 146,009; receipts, £25,300; expenses, £24,745. The British South Africa Company obtains its revenue from mining, trading, and professional licenses, business stands, and the postal and telegraph services. The revenue for the year ending

March 31, 1901, was estimated at £426,800, and the expenditure at £781,317, inclusive of supplementary estimates. The authorized capital of the company is £5,000,000, of which £4,375,000 have been issued, besides which there are £1,250,000 of debentures. Of a total expenditure by the Government of Southern Rhodesia of £729,922 in 1900, native affairs took £227,257, the military and police £205,532, and mines and public works £101,530. The Chartered Company advanced £363,543, the hut tax yielded £73,938, stamps and licenses £118,409, posts and telegraphs £42,277, sales of stands and farms £12,617, customs £40,591. For the war in the Transvaal and the defense of the border Rhodesia contributed to the imperial forces 1,500 men, an eighth of the total European population. The Government took extra measures to maintain the supplies of food and the mining requisites in order to avoid the necessity of discharging both white and native workmen, which would have a specially disastrous effect on the native mind. The main problem in the development of Rhodesia is the labor supply. The attempt to compel the Matabeles to work proved a failure. Laborers brought from Portuguese Africa and other East African countries as far as Abyssinia are worked in chain-gangs and no further supply can be obtained. The Nyasaland administration will not allow laborers to be recruited in its territory. The Legislature in July, 1901, passed an immigration bill to provide for and regulate the importation, management, and disposal of laborers. It is proposed to bring coolies from India and from China under Government restrictions as to their return. In Mashonaland £400,000 of gold was produced in 1901, and treble that amount was expected in 1902.

Northern Rhodesia is the enormous tract of country between the Zambesi and the confines of the Congo State and German East Africa and between the Portuguese possessions on the east and the west coasts of Africa south of the equator; only the British protectorate of Central Africa, south and west of Lake Nyasa is excluded. Extensive regions are unexplored or but little known. The British Central Africa Protectorate by arrangement with the Imperial Government has undertaken to protect with its armed forces Europeans in Northeastern Rhodesia, which for administrative purposes is separated from Northwestern Rhodesia and has its present seat of administration at Fort Jameson, on the Tanganyika plateau, where Robert E. Codrington is Administrator. The area of Northwestern Rhodesia is estimated at 120,000 square miles, with a native population of 256,000 and not over 130 Europeans. The telegraph has been extended from the Zambesi at Zomba to Kassanga on the German shore of Lake Tanganyika. In Northeastern Rhodesia are elevated plateaus where Europeans can live in comfort and rear cattle and cultivate grain and European fruits, as well as coffee, and where there are native fiber plants that could be utilized. Gold has been found in the south, and near Lake Nyasa are coal deposits.

Northwestern Rhodesia is nearly coextensive with Barotseland, the great kingdom established by a Kaffir horde from the south. It is well populated, has an abundance of water, and is adapted for grazing and for the cultivation of rice, cereals, coffee, and rubber. The company's administrator is Major R. T. Coryndon, who has his headquarters at Lialui, the kraal of the Barotse king.

Orange River Colony.—The Orange Free State was declared to be annexed to the British Empire by a proclamation issued on May 24, 1900,

receiving the name of the Orange River Colony. The places under British control were under military rule in the beginning of 1901, and wherever British dominion was not upheld by arms the republican Government still had authority, although it had no fixed seat of government. The British Government appointed Sir Alfred Milner, High Commissioner of South Africa and previous to this time Governor of Cape Colony, to be Governor of both the Transvaal and the Orange River colonies, and as Lieutenant-Governor of the Orange River Colony under him Brig-Gen. H. J. Goolt-Adams was appointed. Civil government was promised as soon as military and political conditions should permit. The Lieutenant-Governor as well as the Governor was to be assisted by an Executive Council, composed of the principal officials and perhaps additional members. The British authorities proposed to disturb the local laws and customs as little as possible, to consult local opinion, and as soon as the conditions should warrant to introduce constitutional self-government, in the meantime creating municipalities at Bloemfontein and other towns, leaving to local authorities their usual administrative powers, and in making appointments to administrative offices to give the preference to men born in the country.

The President of the Orange Free State, elected in 1896 for the term ending Feb. 19, 1901, was M. T. Steyn; Vice-President, J. B. Hertzog.

The area is estimated at 48,326 square miles. The population at the census of 1890 was 207,503, of whom 77,716 were white and 129,787 colored. Of the whites 51,910 were born in the Free State, 21,116 in Cape Colony, 1,002 in the Transvaal, 860 in Natal, 56 in Griqualand West, 2,549 in Europe, and 214 in other parts of the world. The revenue in 1898 was £799,758, including £408,578 from railroads; expenditure, £956,752, including £508,478 for railroads. Under republican law every burgher between the ages of sixteen and sixty was obliged to take up arms when summoned by the field-cornet, or captain of his district. The strength of this militia in 1899 was estimated at 22,314 men, all of whom took the field against the British.

The surface of the country consists of rolling plains which are excellent for pasturage but subject to drought and unsuitable for agriculture. Less than 1 per cent. of the soil is tilled. The production of diamonds in 1898 was 307,148 carats, valued at £1,508,661. There are valuable coal-mines, and gold has been found. The total imports in 1898 were £1,190,932, and exports £1,923,425 in value. The railroad, running from Norval's Pont, on the Orange river, through Bloemfontein to Viljoens Drift, on the Vaal river, connecting there with the Transvaal system, was built by the Cape Government and transferred in 1897 to the Government of the Orange Free State, which undertook to pay £1,800,000. The total cost of the railroads, which have a length of 392 miles, was £2,771,945. The telegraph-lines have a length of 1,480 miles, with 1,700 miles of wire, not including 420 miles of railroad telegraph, with 1,119 miles of wire. The public lands have an aggregate area of 5,500,000 acres. Sir David Barbour, who examined the financial resources of the country for the British Government, estimated the normal revenue at £756,000 and the normal expenditure at £491,000 for administration, leaving an average surplus of about £250,000, which would be reduced to £150,000 by the expenses of a loan of £2,000,000 to be raised in order to pay compensation in Cape Colony and Natal and to repair the ravages of war. The British Govern-

ment will have to support the constabulary almost entirely and can never, according to this report, recover any of the war expenses from the Orange River Colony. The receipts of the British military administration from the date of the occupation to June 30, 1901, were £402,925, and the expenditure £386,038. The purely civil revenue was £301,800 and the expenditure £217,974. The receipts from quit rents were £11,823; from customs, £151,000; from licenses and stamps, £28,000; from the native poll-tax, £10,100; from the post-office, £43,636. A commission was appointed in October, 1901, to inquire into the working of the Free State laws with reference to the leasing of Government farms upon conditions of personal occupation, the burghers not being the owners of the land; also to report on the conditions under which farms are held by whites and natives in the Moroka district and on prospecting, developing, and working mines on Government land. A royal commission which was appointed to study the question of the resettlement of the land in the republics after the restoration of peace suggested the confiscation of the Boer farms or the compulsory sale of private lands for settlement. Another plan was for the Government to buy up and foreclose the mortgages on the farms, which in many cases amount to 50 per cent. or more of the value. The object is to plant loyal British settlements in the midst of the hostile Dutch population which should be numerous enough to give a majority of votes when self-government is restored. The conditions of farming are so precarious in South Africa, owing to drought, locusts, rinderpest, and other dangers, and the conditions of life are so wild and monotonous, that practical British farmers could not exist there and Canadians and Australians saw no inducements. A few hundred men applied to the land commission, but their object was to obtain grants of land to speculate with, for they had no experience in farming nor desire to become farmers. The commissioners suggested offering £150 as a loan or gift to every British settler. The British Government recognized later that the resettlement of the land even by the Boers would necessitate financial aid from the British Government. Lord Kitchener and Sir Alfred Milner, in treating with Gen. Botha for peace, promised that money should be given them to replace the buildings that the British troops had burned and the breeding stock they had driven away. Mr. Chamberlain would only agree to loaning them the money, and as the Boers were unwilling to become debtors of the British Government, subject to eviction at any time, this and the question of amnesty to the Cape rebels were the points on which peace negotiations broke down in the spring of 1901. An outbreak of virulent rinderpest spread through the Orange River and Transvaal colonies in the autumn of 1901. The public lands of the Orange Colony were about 150,000 acres in extent. An experiment in settling discharged soldiers as military colonists was tried in the vicinity of Bloemfontein. They were provided with seed, tools, and live stock, and no rent was charged during the experimental period.

The Transvaal.—After the capture of Pretoria, the capital, by the British army the South African Republic was declared to be annexed to the British dominions under the name of the Transvaal Colony by a proclamation issued on Sept. 1, 1900. Sir Alfred Milner was then appointed Governor of the Transvaal Colony and the Orange River Colony and replaced as Governor of Cape Colony by Sir Walter Hely-Hutchinson, previous to that Governor of Natal. A con-

stitution for the new colony was promised as early as circumstances would permit, and municipal government was expected to mitigate military rule in Johannesburg, Pretoria, and other towns. President S. J. P. Kruger, who was elected in 1898 for the fourth consecutive term, lasting till May 12, 1903, departed for Europe to seek the intervention of foreign powers; yet the republic still asserted its existence, Vice-President Schalk Burger assuming the presidential authority and acting in conjunction with Commandant-General Louis Botha and other commandants in the field and with President Kruger and State-Secretary F. W. Reitz in Europe.

The area of the Transvaal is 119,139 square miles. The white population was officially estimated in 1898 at 245,397, and the native population at 748,759. The revenue of the republican Government in 1898 was £3,983,560, and expenditure £3,971,473. In 1899 the revenue raised with the aid of war-taxes was £4,500,000. The military force, comprising under the law the entire adult male population, was estimated in 1899 at 29,279.

The Transvaal, solely a pastoral country prior to the discovery of gold in 1884, led all other countries in the production of gold when war broke out with Great Britain in October, 1899. The production, only £10,096 in 1884 and £6,010 in 1885, grew to £967,416 in 1888, £5,480,498 at the end of the next five years, £7,667,152 in 1894, £8,569,555 in 1895, £8,603,821 in 1896, £11,476,260 in 1897, and £16,044,135 in 1898. The total production from the first opening of the mines until regular operations were stopped by the war was £82,465,000 in value. The amount of gold accessible on the Witwatersrand has lately been estimated at £2,871,000,000 sterling, giving a net profit of £730,000,000. The only limit to the exploitation of the Rand is supposed to be the ultimate depth at which mining can be carried on. Gold may yet be discovered in large quantities in the eastern and western extensions of the Rand and in the quartz reefs of other parts of the Transvaal. The Klerksdorp, Heidelberg, and Barberton mines have been profitably worked, but are not so productive as those on the Rand. The Transvaal Government charged a fixed annual license fee for each claim, the claims being bounded by vertical lines. No other tax was imposed save the indirect taxes paid by the mining community, until in 1898 a tax of 5 per cent. was levied on profits. The license tax operated to the advantage of the richer mines, so that Johannesburg paid 1.7 per cent. of its output and Heidelberg 33 per cent. On land leased from the Government 2½ per cent. of the gold output was paid. Sir David Barbour, who was commissioned to inquire into the financial circumstances of the Transvaal and Orange River colonies and to suggest measures by which their revenue and expenditure could be placed on a satisfactory footing and the extent to which they may be fairly asked to contribute toward the cost of the war, recommended the conversion of this into a 7-per-cent. tax on profits. He proposed a 3-per-cent. tax on the profits of joint-stock companies other than mining companies. Discoveries of new gold-mines he would encourage by opening areas to prospectors without their being required to obtain the consent of the owners and by lightening the heavy license fees. There were about 80,000 Kaffirs employed in the Rand mines, whose average wages were £3 a month, five-eighths of which they spent for pleasures and ornaments and the rest they carried away to buy a wife and settle in their own homes unless they were robbed or

cheated out of it on the way. The sale of liquor to Kaffirs was forbidden by the Transvaal law, yet enough of it was sold to make many Johannesburg millionaires and hundreds of them wealthy. European clothing, gay belts, caps, cravats, and other wares of flimsy make, largely imported from Germany, were a source of riches to other traders. The stores which catered to the whites did a large aggregate business also. The wages of the white laborers averaged £30 a month. When the republican Government restricted mining to 12 mines the business of Johannesburg proportionally diminished, and it ceased altogether when the British took the city. The merchants fear that the English will introduce the compound system as it exists at Kimberley, where the blacks are confined in their quarters and purchase everything from the company's stores. The pass and labor laws which the Volksraad made in 1898 and 1899 at the request of the mining companies of the Rand prescribed flogging for being found without a pass and for every offense that a Kaffir could commit, and made the penalty for breaking their labor contract and running away specially severe. Lord Kitchener, acting High Commissioner, in June, 1901, ordered that lashes should no longer be inflicted without a magistrate's order, and abolished flogging for slight offenses, yet for being at large without a pass the penalty was increased from £5 fine or two months' imprisonment to £10 fine or three months' imprisonment and 25 lashes. The difficulty of obtaining labor is the principal one that mine owners have to contend with in South Africa. Before the war wages were so high that low-grade ores could not be worked, so high even for high-grade ores that the mine owners determined to reduce them 33½ per cent., which could not be done unless they had power to compel laborers to work for less than they were willing to take. The great majority of black men, even when willing to work above ground, have an insuperable objection to going below ground. Latterly the main supply of labor was obtained from certain tribes in Mozambique and other Portuguese territories. The Transvaal Government refused to coerce the natives in its own dominions to work in the mines as the mine owners endeavored to get it to do.

Diamonds have since 1897 been found in the Transvaal in formations similar to those of Kimberley. Silver, copper, lead, tin, and other minerals have been discovered in promising deposits. Iron is found in proximity to coal-beds, and these are, next to gold, the most important resource of the country, as they are estimated to contain within reach 60,000,000,000 tons of coal.

The agricultural possibilities of the Transvaal are great excepting in some barren regions. The strip extending from Pretoria westward to Zee-rust contains 10,000 square miles of well-watered land of inexhaustible fertility, growing wheat, tobacco, oranges, and fruit of every kind. There are other districts similar to this in climate and productive capacity. Northeast of Pietersburg, in a semitropical climate, German settlers have had flourishing plantations of sugar-cane, tobacco, coffee, bananas, pineapples, and oranges. Maize is a common product throughout South Africa. Sheep and cattle have been the main reliance of the Boers, and ostriches and goats have been raised. Agriculture has been carried on principally by the Kaffirs. The Transvaal has always been obliged to import foodstuffs.

The length of railroads in the Transvaal is 774 miles; of telegraphs, 2,200 miles, with 5,650 miles of wire. A dependency of the Transvaal is the

native district of Swaziland, inhabited by about 50,000 natives of the Zulu race, governed by their own paramount chief, while a commissioner of the South African Republic was at the head of the general administration, collecting a revenue of £35,000 and having a police force of 110 men. There were about 1,200 white settlers who had obtained grazing farms from the Swazi chiefs. The Swazi number about 60,000. In the Transvaal proper there are believed to be actually more than 1,000,000 Kaffirs and in the Orange River Colony 150,000. Of the Transvaal natives about 750,000 live under their own chiefs in the bush veld and the low country of the Zoutpansberg, the Lydenburg district, and other parts in the northeast and north of the Transvaal, and in recent times they have been little interfered with except by military expeditions to compel them to pay the hut tax or when they have been dispossessed of land wanted by the whites. About 140,000 have settled on Boer farms throughout the Transvaal, where they cultivate their gardens and keep their own cattle, and in lieu of rent perform the farm labor for their masters. The domestic servants are held under the apprenticeship laws which no longer exist in the Cape Colony, where whites and blacks are legally equal, though as a matter of fact the Transvaal natives, and still more those of the Orange Free State, whose legal status is not quite as servile as in the Transvaal, have had more practical freedom and better chances of prosperity than the Cape and Natal natives, and the Boers have been kinder masters to the natives employed in their houses and have dealt more justly with the great body of the natives than the Cape Colonists or the newcomers from Europe. All the special and oppressive legislation introduced in the Transvaal since 1884 has been at the bidding of the Uitlanders, and avowedly designed for the mine owners and other employers who came in search of wealth after the opening of the Rand in 1885. About 100,000 natives are employed as domestic servants in the towns of the Transvaal by Uitlanders as well as Boers. Very few are willing to work in the gold-mines, which formerly drew their supply of labor from Cape Colony, Natal, and Zululand, and subsequently from Portuguese territory. The contract labor laws passed in Cape Colony at the behest of the Kimberley mine owners and other capitalists are more oppressive than the labor acts that the Rand capitalists were able to obtain from the Volksraad, and in modifying these, the British Government, while reducing the flogging penalties, added some of the compulsory features of the Cape legislation.

The revenue of the South African Republic from customs was £1,289,000 in 1897 and £1,067,000 in 1898. Sir David Barbour's plan is to reduce the heavy duties on beer, jam, and other British products; to increase those on wine, tea, and coffee; and to make the duty on spirits imported from South African colonies 10s. a gallon, the same as on spirits from over sea, to impose an excise duty of the same amount on spirits distilled in the Transvaal, and to allow spirits to be sold to natives. The hut and poll taxes, which yield but little, should be made lower and strictly collected, and the poll-tax of 10s. on male adult whites abolished. The share of the Transvaal Government in the National Bank and the Netherlands Railroad produced £254,000 a year, and 85 per cent. of the surplus receipts of the railroad £668,000, including £316,000 of customs duties collected by the company. The true revenue of the Transvaal for 1898 was found to be £3,341,920, and the true expenditure £3,476,845.

Omitting war expenditure, secret service, and foreign missions, Sir David Barbour reckoned the normal expenditure at £2,607,000, to which he added £225,000 as the interest on a loan of £5,000,000. To pay for damages done to Natal and Cape Colony and to repair the devastation in the Transvaal the loan may be £7,000,000. The South African constabulary is to consist of 10,000 men, 4,000 of whom will be paid by the Imperial Government, leaving 6,000 to be maintained by the Transvaal at a cost of £1,500,000, which raises the annual expenditure to £4,332,000, leaving a deficit of £865,000, which it is proposed to meet by imposing a tax of 10 per cent. on the profits of the gold-mining industry. This tax, together with a proper enforcement of the mining licenses and contracts for leased mines, would yield from the start £550,000. As the wealth of the Transvaal depends almost entirely on its gold-mines, the bulk of taxation must necessarily fall on them either directly or indirectly. The import duties on articles used for mining purposes and on mealies supplied by the companies to the colored laborers fall directly on the mines, and those levied on articles used by the white employees fall indirectly, making the wages for white labor 30 per cent. of the total cost of working the mines. The abolition of the dynamite monopoly will save the mining companies £600,000 a year, and great gain will accrue from reducing freight rates when all the railroads become the property of the state. The customs receipts under the republican Government fell from £1,355,000 in 1896 to £1,000,000 in 1898. The expenditure on education is reduced by the English expert from £267,000 a year to £200,000; on local police, from £352,000 to £250,000; on railroads, from £359,000 to £25,000.

The stocks, bonds, and other securities belonging to the Transvaal Government have a face value of £1,825,000, consisting mainly of shares of the Netherlands Railroad. The mining rights in Government land at Johannesburg may be worth £2,750,000 at present valuations and much more if they are carefully investigated and sold to the highest bidder. Mining areas may yet be found elsewhere on state lands, of which there are 11,000,000 acres. The republican Government through defects in the mining laws wasted its most important asset, which is the Government right of mining and disposing of gold and other minerals. From an industry that could declare dividends of £5,000,000 the state derived a direct revenue of not more than £150,000. The laws were framed to benefit the owners of the land, but the whole benefit was ultimately obtained by large capitalists. Mining on the Witwatersrand is essentially capitalist mining, as a very heavy expenditure is necessary before a claim can be profitably worked. The capitalists bought out the owners of lands where they desired to sink mines, and thereby were able to select the most promising claims and to reserve the mining rights to other parts of the farm which might contain gold by placing these spots under cultivation before the area was proclaimed, and thus opened to the public for mining purposes, and even then the owner had a prior right to select claims and received a share of the license fees collected from prospectors and diggers. Any outsiders who selected claims on such a farm had to buy out or combine with each other so as to unite a sufficient number of claims to make a Transvaal mine and to invest a large capital, in the meantime paying the high license rates on all the claims. The capitalist who had purchased the fee simple, and thereby acquired the special

mining rights and privileges which the Transvaal law intended to preserve for the Boers, was therefore usually able to get hold of any good claims discovered on the farm without paying much money. Sir David Barbour proposed to reduce the privileges granted to owners of the land, to lower the fees paid by prospectors, and to sell the mineral rights in state lands known to contain gold or charge a rent contingent on profits. The proceeds of such sales Sir David Barbour proposed to lay aside as the Transvaal contribution toward the extinction of the debt incurred by Great Britain for the prosecution of the war. The war loans amounted in the beginning of 1901 to £55,000,000; and that whole sum might be charged against the Transvaal and Orange River colonies, but a loan of £7,000,000 will probably have to be raised with imperial guarantee by the one and £2,000,000 by the other before they can be rehabilitated, and neither will have sufficient revenue for some years to come to pay its own expenses. No surplus revenue in the Orange River Colony can be foreseen, but after two years from the conclusion of peace the Transvaal may be able to set aside something from additional taxes on the mines and the existing claims of the state against them properly enforced and from revised customs, stamp, license, and excise taxes. Aside from mineral lands the public lands of the new colonies are not likely to be salable. It is impossible to determine what part of the British war debt can ever be recovered from the annexed republics, probably nothing from the Orange River Colony, and if the Transvaal Colony can bear a part or the whole of the debt it will have to be imposed by degrees.

The scheme of government planned for the new colonies by Mr. Chamberlain was direct administration by the Crown for an indefinite period, to be followed ultimately by self-government. Municipal self-government would be established early, and the old laws and customs are to be maintained as far as practicable, the officials of the late Government being retained in office. The two new colonies were to have one governor-in-chief, with a lieutenant-governor for the Orange River Colony, where fewer radical changes would be necessary than in the Transvaal. The rearrangement of the boundaries, giving the southeastern parts of the Transvaal to Natal, could only be settled after civil government had been reestablished for some time. On Oct. 18, 1900, Sir Alfred Milner was appointed High Commissioner for South Africa, the office being made independent of that of Governor of Cape Colony, and was commissioned Governor of the new colonies for the purpose of inaugurating civil government. In case of his death or absence the senior military officer commanding in South Africa was to be High Commissioner, and in the event of the death or departure of Lord Roberts the High Commissioner was empowered to act in his place as administrator of the conquered territories for the time being. Sir Alfred Milner was authorized to invite the officers administering the several colonies and protectorates in South Africa to send representatives to confer with him as High Commissioner on all subjects of common interest. Failing other means of concerted action for which legislation might be necessary in the several colonies, he in his central position as High Commissioner should be enabled to set in motion and to further the union and consolidation of South Africa in regard to some of the most important interests which affect its component parts. The Cape ministry admitted the necessity in the existing condition of affairs for the sepa-

ration of the offices of High Commissioner and Governor of Cape Colony, but hoped that it would be only temporary, and that Cape Colony would retain its former preeminent position justified by its size, population, extensive seaboard, and material interests, and that in the future federal union of all British South Africa the supreme head of the commonwealth would be located in Cape Town.

When Lord Kitchener assumed command of the British forces in South Africa on Nov. 29, 1900, Gen. Christian de Wet, who had sustained a defeat at Bothaville, rallied his forces on the Dornberg, east of Winburg, and Commandant Hertzog assembled a force at the same time in the southwest corner of the Orange River Colony. It was known to the British that they contemplated an invasion of Cape Colony, where they expected to be joined by large numbers of Dutch colonials. Commandant-Gen. Botha at the same time collected a force of 5,000 men in the eastern Transvaal with the probable intention of invading Natal and advancing upon Durban. De Wet with the main invading column planned to advance south by way of De Aar, Hertzog to proceed to Lamberts Bay, where, according to the English account, a ship from Europe was expected to land volunteers, guns, and ammunition; both forces were then to join in an attack on Cape Town. If the Cape and Natal Afrikaners rose with spirit and unanimity against the British the republican generals expected to wrest from them, if not their sea base, their lines of communication with the base, which would place the great British army in South Africa at their mercy. Helpless for offensive operations the British were already, because Lord Roberts, in the belief that the war was ended and the mass of the Boer population ready to accept British sovereignty and settle down to the pursuits of peace if they could only be protected from the solicitation and coercion of the irreconcilable firebrands whose forces were reduced to roving guerrilla bands, had in fulfilment of his promise of protection given to the burghers who surrendered after the fall of Bloemfontein and Pretoria placed garrisons in the richest districts of both republics as well as on the railroads, and all the effective troops that were not so employed were needed to convoy supplies to these scattered garrisons. Some of the convoys and even garrisoned posts were successfully attacked by the Boers, and the British troops, worn out by a severe campaign, lacking horses, and often deprived of food supplies by the active commandoes, had all they could do to hold their positions. The total strength of the Boer forces was never known to the British. The population of the republics was probably underestimated from the beginning. Their fighting strength was perhaps 50 per cent. greater than was reported by the British intelligence department, which had no useful military map of the seat of war until at an advanced stage of the campaign the Transvaal Government map that was in the custody of a Swiss printer was obtained by bribery. The number of foreign volunteers, the adherence of the majority of the Uitlander population to the republican cause, the almost unanimous sympathy of the colonial Dutch and of a considerable proportion of the British colonials for the Boers, all came as surprises to the British generals and statesmen. The assemblage of considerable Boer forces in the field with guns, horses, and ample supplies about the time that President Kruger reached Europe was a new surprise. Lord Kitchener, however, on taking command abandoned the policy of pro-

tecting the surrendered burghers, evacuated all posts away from the railroads excepting the Thabanchu line protecting Cape Colony, built fortifications along the railroads to permit the withdrawal of a large part of the troops guarding communications, and by these measures set free troops for field operations, which were supplemented by numerous irregular mounted corps that were enlisted to fight guerrillas with their own tactics. In evacuating the country Lord Kitchener established central refuge camps along the railroad lines where surrendered burghers could live under effective military protection. He also instituted the policy of devastating the adjacent districts and bringing into the camps the families of burghers still under arms, the members of which were for a time purposely starved as a means of compelling the fathers to surrender, until the Minister of War placed his interdict on this barbarous expedient.

The earliest peace negotiations took place before the occupation of Pretoria. Gen. Chris Botha asked Sir Redvers Buller in Natal what terms Lord Roberts would offer. Gen. Buller suggested to the commander-in-chief definite terms which made no distinction between officers and men. Lord Roberts replied from Johannesburg on June 3, 1900, that his terms were unconditional surrender, but that troops that surrendered arms and horses and signed a pledge not to fight again would be allowed to return to their homes with the exception of those who had commanded portions of the republican forces, or who had taken an active part in the policy that brought about the war, or who had been guilty of, or parties to, wanton destruction of property, or had committed acts contrary to the usages of war, the principal officers to be detained until decision was made as to their disposal.

After the capture of Pretoria and the flight of Paul Kruger to Europe Field-Marshal Lord Roberts, the British commander-in-chief, called upon Commandant-Gen. Louis Botha in the cause of humanity to refrain from further resistance, as the war could only be prolonged for a few weeks in the face of the overwhelming British force, and there would therefore be no loss of honor for the Boers in laying down their arms after their gallant struggle. Botha asked for a week's armistice to enable him to telegraph to President Kruger and to call the commanders of his scattered forces to a council of war. Lord Roberts would not agree to a cessation of operations, but offered to make no farther advance northward or eastward for five days if the Boers would refrain from attacking. The acting commandant-general replied on June 15, 1900, that it was impossible to accept an armistice which permitted movements of British troops in all directions in the South African Republic except east of Elands River Station and north of the Volksrust and Johannesburg Railroad. Lord Roberts, in answer to a complaint of Commandant De Wet against the destruction of farmhouses and the eviction of their occupants, wrote on Aug. 3, 1900, that soldiers had been shot from farmhouses flying the white flag and railroad and telegraph lines had been cut; therefore he had found it necessary to burn down farmhouses at or near which such deeds had been perpetrated, and should continue to do so, the misdeeds of burghers being thus the cause of women and children being rendered homeless. Sir Redvers Buller, when opening the railroad to Delagoa Bay, promised protection to burghers who remained neutral, but burned or destroyed homesteads whenever patrols were attacked or telegraph-lines cut, and Lord Roberts in a communication to

Gen. Botha justified such action, to which the Boer commandant-general replied on Aug. 30, 1900, that British troops had destroyed the homes of well-disposed families and seized their provisions and stock, driving women and children out into the veld to tramp for miles in search of food and shelter, saying that he expected the British commander-in-chief to make an end to these barbarous actions, exceeding the teachings of civilized warfare, and also to the robberies of small roving bands of so-called scouts, who could not expect to be treated as prisoners of war when they fell into his hands. The houses destroyed often contained only women and children and in no case did bodies of burghers hide themselves in these houses, as the commandoes were all on the other side of the railroad. Lord Roberts replied on Aug. 23 that the Boers destroyed the property of burghers who had taken the oath of neutrality when they refused to violate their oath, and that he would punish all who did violate their oath and confiscate their property. On Sept. 2 he informed Gen. Botha of his proclamation ordering the destruction of all farms within a radius of 10 miles of any attempt to injure the railroad or wreck trains, saying that the war was degenerating into guerrilla operations which he felt bound to prevent. Gen. Botha replied that whatever the Boers accomplished must necessarily be done by insignificant bodies as compared with the British forces, and that it was necessary to split up the commandoes more and more in order to oppose the robber patrols which under Lord Roberts's command go about everywhere to seize the cattle and provisions on the farms; the burgher forces were organized and commanded exactly as they had been from the beginning of the war and in accordance with the laws of the country; and as to farm burning by the British troops, houses had been burned down or blown up with dynamite and women and children turned out of them without food or covering in all parts of the country wherever the British troops had gone, not along the line of the railroad alone. Lord Roberts, replying on Sept. 7, 1900, intimated that he recognized no regular warfare except in the constantly diminishing area occupied by the army under Gen. Botha's personal command, and that in the other territories of the republics he would adopt the measures prescribed by the customs of war as applicable in dealing with irregular and irresponsible guerrilla operations, measures ruinous to the country, entailing endless suffering on its inhabitants which would necessarily become more and more rigorous. Gen. Botha replied on Oct. 17, 1900, that although such barbarous actions as the blowing up of private dwellings and the removal of all food from the families of fighting burghers in a spirit of revenge against them for merely doing their duty according to law were done with the approval of Lord Roberts and on his special instructions, he would himself continue to carry on the war in the same humane manner as hitherto, yet if he were compelled to take reprisals the responsibility would rest with the British commander. Lord Roberts replied that whatever the organization of the burgher forces might be their tactics were those of guerrilla warfare, which he would be compelled to repress by the exceptional methods approved among civilized nations. Lord Roberts subsequently tried to impress upon the Boer generals the duty of providing for the homeless women and children. He relaxed the work of destruction and let burghers who took the oath of neutrality return to their farms in the districts protected by British troops. Some of these rejoined their commandoes, and when the districts

were evacuated by the British the only safety for burghers who would not give active aid to the Boers was inside the British lines.

Mr. Chamberlain on Dec. 7, 1900, proposed to issue a proclamation announcing that, while annexation was irrevocable, the inhabitants would be accorded full liberty, equal laws, and the enjoyment of their property, and on Dec. 10, 1900, he asked whether it would be possible to offer terms to those leaders who were excepted from the general amnesty previously proclaimed or to send emissaries possessing influence to convey these offers. Sir Alfred Milner, with the concurrence of Lord Roberts, thought that such a proclamation would be regarded as a sign of weakness and that to send emissaries to the Boer commandoes would do more harm than good. On Dec. 13 Mr. Chamberlain pointed out the desirability of making it clear not only to the Boers, but to the British public, that the Imperial Government was doing all that was possible to stop the war consistent with the interests of the loyalists in South Africa and with the necessity of avoiding the charge of weakness, and that the continuation of the war was forced upon the Government by the refusal of the Boer leaders to accept the generous terms that had been offered to them. Burghers who surrendered to the British and took the oath of allegiance when British forces occupied their districts were commandeered by the Boers when the British were compelled to retire, and whenever they fell into the hands of the British later they were severely punished as traitors, as were also all colonists and British subjects who actively assisted the Boers. The Boers adopted rigorous measures also to prevent the burghers from surrendering, and threatened to confiscate their property and burn their houses. Commandant-Gen. Botha ordered all field-cornets to make a list of the burghers who had laid down their arms and taken an oath of neutrality, and on their refusal to rejoin their commandoes to send them to jail and to seize their movable property for commando purposes, making an inventory of the property taken and leaving enough for the support of the family. Passes and permits given by the enemy to burghers who had surrendered must be returned, and such burghers as were not fit for military service must be compelled to take a new oath declaring that the oath of neutrality was taken without sanction of their military officers and was null and void.

Lord Kitchener, who succeeded to the command-in-chief of the British forces in South Africa when Lord Roberts returned to England to become commander-in-chief of the British army, at the instance of Sir Alfred Milner began to form local peace committees among the Boers who surrendered, and on Jan. 5, 1901, issued a proclamation telling burghers who gave up their arms that they would be allowed to live with their wives and families at the centers on the railroad under military protection. Each district would have its central refuge camp. Breaking the oath of neutrality would not be considered criminal unless done voluntarily, and leaders would be well treated if they had not violated the rules of war. Cattle remaining in military possession at the end of the war would be distributed among those who had suffered through surrendering voluntarily, and all would be allowed to return to their farms. Sir Alfred Milner framed a proclamation which Lord Kitchener did not think it advisable to issue while the Boers were successfully invading Cape Colony. He let it be known that he would receive an officer from the Boers proposing peace or would meet Gen. Botha at any

time. A peace committee of burghers went out to see Botha. Ex-President Pretorius also went out in the hope of inducing the Boer commanders to give up the struggle, but he found Louis Botha and Schalk Burger both determined to fight on to the end. The Orange River Colony had been so far pacified that farmers settled down to plowing and sowing. District commissioners under the protection of a provisional mounted police collected as much as 40 per cent. of the regular taxes, when bodies of armed Boers reappeared and, receiving no check, soon had the whole country in revolt. In the beginning of February, Sir Alfred Milner had to report that there had been retrogression since the middle of 1900, when the southwestern Transvaal, the southern half of the Orange River Colony, and all of Cape Colony seemed to be completely pacified. The end of the war and the beginning of administrative reconstruction could not be predicted, and it could only be foreseen that the task of conquering the Boers was to be far slower, more difficult and harassing, and more expensive than had been anticipated. The Boers, broken up into a great number of small forces, were raiding in every direction, and the British, similarly broken up, were pursuing them, which made the area of fighting much larger than if large masses were operating against each other and consequently the destruction was more wide-spread. The fighting was mainly over supplies. The Boers, living on the country, took all the horses, cattle, grain, and fodder from the farms, and clothes, boots, sugar, and coffee from the village stores, and in order to deprive them of these supplies the British destroyed everything wherever they passed or removed the stores and live stock that they seized to the refugee camps. The policy of burning farm-buildings which had been resorted to early in the campaign had mostly been given up as a measure which exasperated the Boers instead of intimidating them, increased the number of their sympathizers, and shocked public opinion in Great Britain as well as in other countries. The Boers or their sympathizers among the Johannesburg rabble wantonly destroyed the works in one of the mines, which were difficult to guard, as they stretch out over many miles of country. The vast extent of the republics and the necessity of concentrating the British forces for the long advance, first to Pretoria, and then on the Netherlands Railroad to Komatiport, resulted in the country that had been occupied being left open to raids begun by a few bold and skilful leaders, constantly growing in audacity and encouraged by their successes. These disturbers appeared first in the southeast of the Orange River Colony, then in the southwest of the Transvaal, and finally in every part of the conquered territory. The burghers who had taken the oath of neutrality were unable to resist the pressure of their old companions who appealed to their patriotism and to their fears, and justified their taking up arms again by the failure of the British to protect them. A general rising at the back of the British advanced forces led to a straggling conflict. As the British columns swept through the revolted country, meeting with hostility and sometimes treachery on the part of the people, they destroyed the property and made prisoners of many who had been faithful to their oaths of neutrality, not being able to distinguish them from the greater number who had broken faith. This resulted in further accessions to the ranks of the Boers, and the evacuation of Fauresmith, Jagersfontein, Smithfield, and other places where civil administration had already been introduced augmented the general revolt. Refugee

camps were then established along the railroad lines, and the British attempted to cripple the Boers by driving into these fenced enclosures the whole non-combatant population—women, children, the aged, and the peaceful burghers—though none were friendly now. Wherever the British columns went the country was thus stripped of its population and was laid waste so that the Boers could find no subsistence there. Ostensibly they were intended for refugees for the pacifically disposed. The Boers who could no longer fight did resort to them, but they were mostly tenanted by the wives and children of Boers who were still in the field. As the guerrilla warfare swept back over the western Transvaal where British rule had been accepted peaceably, and soon involved the whole of the Orange River Colony, its effect became marked in Cape Colony, where the bulk of the Dutch population seemed at one time disposed to accept accomplished facts and acquiesce in the union of all South Africa under the British flag. After the occupation by the British of the two Boer capitals, instead of being able to hold and defend whole districts, as was attempted at first, they were not even able to hold the line of the railroad with their army of 200,000 men, which was constantly being reinforced by fresh troops. Away from the railroad they could only make futile raids in pursuit of the active commandoes of De Wet, Delarey, Botha, and other Boer leaders, who captured trains of ammunition and commissary supplies and inflicted severe losses on British columns. The reprisals to which Lord Roberts resorted with the approval of Sir Alfred Milner and Mr. Chamberlain, such as the burning of farms and the harsh treatment of the families of the Boer commanders and other non-combatants, stirred the indignation of the Dutch colonists, who were incensed also by the determination of the British Government to annex the republics, and by the severe penalties inflicted upon colonists who had been commandeered or had aided the Boer cause. After a congress of Boer sympathizers had been held in Worcester, Boer commandoes, on Dec. 16, 1900, reinvaded Cape Colony and were received with open arms. The feeling among the Cape Dutch was as hostile as among the Boers in the field, excited as it was by exaggerated reports of British outrages and cruelty. But the Dutch farmers would not expose their property to destruction or lightly risk their lives or liberty by incurring the penalty of treason. The Boer commandoes which invaded the colony received secret aid wherever they went, and with fresh supplies of horses and food were able to evade the forces that were sent against them, but they did not at first gain many recruits such as flocked to their ranks during the previous invasion and still formed a large part of their force. The open agitation by speech and writing was suppressed by the rigorous application of martial law. This rendered the anti-British feeling still more intense and general, but military repression and a large augmentation of troops in the colony made a rising seem more hopeless to this cautious and practical people. The outside world was kept in ignorance of what was actually passing in Cape Colony. The Boer commandoes penetrated to within a few miles of Cape Town, and such was the feeling of the inhabitants against the English that British residents of villages near by were obliged to flee for safety into the capital, which, as well as the rest of the colony, was placed under martial law. The Boers meanwhile were very active in the two republics and raided various places in Natal. On Jan. 7 attacks were made simultaneously on five

British posts on the Delagoa Bay Railroad and inflicted a loss of 83 officers and men. Kaalfontein, near Pretoria, was invested and shelled a few days later. Lord Kitchener's body-guard was surrounded near Lindley, and all who were not killed were taken prisoners. A train was waylaid on the railroad near Kimberley. The main part of the British army was practically helpless except to guard ineffectually the main lines of communication. Cape Colony had to rely at first on the local irregular troops for its defense. When the columns of Lord Kitchener's army were brought south by rail to cooperate and the Cape troops were in possession of the principal railroad stations the panic subsided. The Boer commandoes retired from the more settled districts, where their presence was not welcome even to their friends. The eastern and western columns retired. In the center, however, Kritzinger's commando was active in the Middelburg and Graaf Reinet districts and able to defy all the forces that could be mustered, while fresh bands of Boers crossed the Orange river to join it. Christian De Wet, having left the Kroonstad district, was at this time attempting to invade Cape Colony, and the British made extraordinary exertions to head him off. He was pursued by Major-Gen. Charles Knox's columns, which he evaded after an engagement near Thabanchu. Other columns concentrated to hem him in, but the British would not go into the hills after him. President Steyn of the Orange Free State was with De Wet. Piet de Wet, who had surrendered with a good part of his commando after the fall of Bloemfontein and Pretoria, and had become the chairman of the Bloemfontein peace committee, wrote a letter to his brother urging surrender, but the Free State commandant-general and President were even more determined than Botha was to continue the fight for independence.

The majority of the Cape Colony Afrikaners who were willing and able to fight for the preservation of the Boer republics had slipped away and joined the commandoes long before. The severe penalties inflicted on the participants in the insurrection of 1900 deterred the people of the border districts from repeating the experiment, and the measures of disarmament then and since then carried out left them much less well prepared for war. The loyalists, on the contrary, were furnished with weapons, and in January the Government issued a general call to arms, to which the British colonists in the towns and the insignificant fraction of the Dutch who were ardent loyalists from the beginning freely responded. There were already 12,000 Cape Colonists in the Cape police, the regular volunteer corps, and the numerous irregular mounted corps, and when the appeal was issued for volunteers for local defense nearly as many more reported themselves. There were besides 1,000 Rhodesians and at least 10,000 Uitlanders fighting with the British forces. In January a limited number of men were allowed to return to the Rand, only 15 to each mine, while a large number of undesirable individuals who had remained there were taken to the seaboard and shipped off to Europe. A special guard of 1,500 men was formed in Johannesburg for the protection of the mines, and a force of 5,000 men was raised elsewhere for the same duty. The Dutch and other foreign governments protested against the deportation of neutrals who were their citizens, and still more strongly against the seizure by the British of the Boer Red Cross ambulances and the deportation of the surgeons and nurses, which the British did on the charge that these took part in the fighting.

Lord Kitchener, on taking the chief command, proceeded to reorganize the British forces with a view to resuming aggressive operations. The nominal strength was 210,000 of all ranks. Of this force 20,000 were incapacitated by sickness and other causes and 50,000 had to be detached for garrison duty and to preserve the lines of communication, so that the force available for offensive operations was 140,000 men, who were augmented before February by 20,000 reinforcements from England. Half or more of the troops were cavalry, artillery, and mounted infantry. The divisional commands were broken up, and the field army operated in brigades, over 40 in number. To each brigade a definite area was assigned, which it was ordered to clear until it reached the square belonging to the next brigade, and then if necessary to retrace its steps and go over the ground a second time. The combined movement was from the outside of each group of squares inward, so that 4 brigades could be quickly massed at any point of danger, and by means of its scouts each brigade could keep in touch with the brigades in front and rear and on either side. It was expected by moving steadily in one direction with these tactics to clear away and to enclose the Boer commandoes, which if they slipped through one group of brigades would find themselves in the area of another. Supplies were stored in a large number of places within two days' march of any of the brigades, so that if the Boers captured any of them the soldiers would not have to go long without food. New contingents were raised in Australia, New Zealand, and Canada, and in Great Britain and South Africa men accustomed to ride and shoot were sought. Recruits were offered 5s. a day, with provision for their families if married men. The approach of the South African winter, when the grass would disappear from the veld and the burgher troops would feel yet more keenly the lack of nourishment and warm clothing, was an additional motive impelling Botha to advance in force to the southeast of the Transvaal and De Wet to gather his forces for an invasion of Cape Colony. Forced thus to action, Lord Kitchener had a chance to put into systematic operation his tactics of sweeping the country clean of its inhabitants by sending 7 columns, under Gen. French, to carry out a convergent movement in the eastern Transvaal. The Boers were operating in commandoes of 1,000 men or more, and there were about 19,000 Boers in the field. The headquarters of the acting commandant-general and of the Government of the South African Republic had been at Pietersburg, far to the north of Pretoria. The simultaneous attacks early in January on Nooitgedacht, Belfast, Wonderfontein, and other posts on the Delagoa Bay Railroad was the first warning that the British had of the Boer movement. Botha concentrated about 3,000 men near Carolina, south of the railroad, and when he reached Ermelo, at the beginning of February, he had 7,000 men, and threatened to cut off British communications with Komatipoort. A section of the railroad in Portuguese territory was torn up by Boer raiders. The British movement was now developed. Gen. Smith-Dorrien's column, which had met the Boers soon after they crossed the railroad, was attacked on Feb. 6 by 2,000 men at Bothwell, and lost 77 men in beating them off. Other British columns occupied Ermelo on the same day, and Botha retired to the eastward. On the western border of the Transvaal Lord Methuen's column, after it had reoccupied Bechuanaland, scoured the country, carrying off all the stock and provender, destroying stores, and col-

lecting the women and children, who were quartered at Vryburg and other centers. Not merely to mount his own men, but also to keep the Boers from getting remounts, Lord Kitchener requisitioned all the horses that could anywhere be found, obtaining in January 13,000 horses and 4,000 mules. From abroad 30,000 fresh horses were landed, in addition to 100,000 having been received during 1900. On Feb. 1 a body of 1,400 with a gun captured the British post at Modderfontein, near Krugersdorp. Gen. French's mobile columns achieved pronounced successes, driving Gen. Botha's force of 7,000 Boers back from Bethel toward Swaziland. The British Government responded to new demands for reinforcements by raising an additional force of 10,000 imperial yeomanry and 20,000 other mounted troops. In Cape Colony the British forces were strong and active enough in the beginning of February to keep the Boer commandoes in check. The Cape Colonists were overawed, though vexed, by the military measures taken to prevent a rising, such as the search for arms, the commandeering of goods, the wholesale arrests of suspected Boer sympathizers, the depredations of the soldiers, and an order as inconvenient for British as for Dutch farmers that all horses, even those not fit for cavalry mounts, be given up to the military authorities.

When De Wet was endeavoring to take a large force into Cape Colony by one of the eastern drifts and was headed off, the British forces that were guarding the approaches to the Orange river were called off to pursue him in his retreat to the north. A detached part of his force slipped round the British columns and crossed at Odendaal drift on Dec. 16. This was Kritzingers's commando, 700 strong, and on the same day Hertzog crossed at Zand drift with 1,200 men. Caught between these posts and Gen. Knox's, Gen. Bruce Hamilton's, Gen. Maxwell's, and 4 other columns in the rear, he made a wonderful march from the east to the west of the Orange River Colony, and at last he slipped through the cordon and entered Cape Colony. When almost surrounded by the 7 British columns, De Wet had once more baffled his pursuers by turning westward and breaking down the resistance of Major Crewe's weak column, which attempted to defend a road through the hills. In crossing the railroad he captured supplies on the trains at Springfontein. After making feints at Rouxville and other drifts, he crossed the Orange river near Zand drift on Feb. 13. Gen. Cunningham operated against Commandant Delarey, who with 2,000 men was moving about north and west of the Rand. Two or three times a small Boer force appeared at the outlying mines and did some damage to the plant.

When De Wet invaded Cape Colony the defensive preparations of Gen. Brabant, who had charge not only of military operations but of the administration of martial law, were well developed. If any member of a colonial family joined the enemy the whole family was declared to be beyond the law, and colonists could claim no compensation for losses unless they actively resisted the invaders. Every farmer of the border districts was expected to enroll himself in the colonial force, either for general service or for the defense of his particular district.

On entering Cape Colony President Steyn and Commandant De Wet issued a proclamation declaring that the republics were not yet conquered nor the war finished; that the burgher forces, which Lord Roberts and Lord Kitchener had called marauding bands, were led by responsible leaders under the supervision of the governments

of both republics, and a part of these forces had invaded Cape Colony to wage war and to be in position to make reprisals by destroying the property of British subjects who were hostile to the Boers, though not to molest women and children, if the British continued their destruction of property in the republics and their barbarous manner of warfare, such as the ill-treatment of the wives of burghers and the destruction of their homes from sheer lust of destruction, the rough and insulting treatment of women and children, causing the deaths of many who were torn from sick-beds, the outraging of women, the robbing of prisoners of war, the murder of burghers, the capture of doctors and ambulances, the sending out of patrols to plunder, burn, and damage the burghers' private property, the arming of Kafirs and natives to make use of them in the war against the burghers, and the burning of farms, nearly all the houses in the two republics having already been destroyed, whether near railroads or not, on the pretext of Lord Roberts's order for such destruction in retaliation for the blowing up of railroad-tracks or the misuse of white flags calumniously attributed to Boers.

The columns which were in pursuit of De Wet, when it was seen that they could not prevent his crossing the Orange river, were called back and sent by railroad ahead of him into Cape Colony. His force was opposed by Col. Plumer's column and forced to retire from Philipstown. Hertzog's commando, which had been operating in the western part of Cape Colony, was checked not far from Cape Town by local levies and irregular troops and threatened on the flank by troops sent by rail. After holding Calvinia and other towns for a week the invaders retired to the north. Kritzingers still held the whole country about Murraysburg. Scheepers's commando in the east had fallen back toward Beaufort West. Detached bodies of Boers were wandering at will through the mountainous and thinly peopled parts of Cape Colony. The force that had crossed with De Wet numbered over 2,000, but the men were exhausted and badly equipped. Col. Crabbe's column took away a good part of the convoy near Hout Kraal. Gen. Knox and Gen. Bruce Hamilton crossed the Orange river after De Wet, who turned to the northeast, pursued by Col. Plumer's Bushmen, was defeated with a loss of guns, ammunition, and prisoners at Disselfontein. Other columns converged and De Wet was obliged to abandon all the captured horses, his guns, and most of his convoy, and only escaped capture by doubling several times. Hertzog's force, moving northward, endeavored to join him and bring fresh horses, and Kritzingers evacuated Murraysburg for the same purpose. Half of De Wet's force had melted away before Hertzog came up, which brought the number up to 2,000 again, but the British concentration compelled them to recross into the Orange River Colony as soon as the river, swollen by rains, became passable. De Wet tried several drifts before he crossed on Feb. 28 at Lilliefontein.

Lord Methuen's force cleared the country from the Bechuanaland border eastward to Klerksdorp, drove the commando of De Villiers out of Wolmaranstad, and defeated 1,500 Boers at Hartbeestfontein with a loss of 49 killed and wounded. Gen. French was successful in his operations against Botha's force, which retreated before him in scattered, disorganized parties to the number of 5,000, losing in successive actions 282 killed and wounded, 56 prisoners, 3 guns, and a great part of the horses, cattle, and ammunition, while the British losses were 158 in killed and wounded.

The Boer losses were at the rate of 1,000 men a month. Botha's and De Wet's attempted movements with large bodies of men were failures because the British could bring immensely superior forces against them. After consulting with Schalk Burger and with the other commandants, Gen. Botha decided to accept Lord Kitchener's invitation to meet him to discuss terms of peace. A return to guerrilla warfare offered to the British as discouraging a prospect as their attempt to resume operations with large bodies did to the Boers.

The strength of the British forces in South Africa before the arrival of the fresh reinforcements was 7,064 officers and 197,885 men, making 204,949 of all ranks, of whom 141,490 were British regulars, 28,339 colonials, 7,995 imperial yeomanry, 7,700 volunteers, and 19,425 militia. The garrison on Aug. 1, 1899, had the normal strength of 9,940 of all ranks, and before the war broke out on Oct. 11, 1899, it was increased by 6,643 from England and 5,903 from India. From then till the end of July, 1900, there were despatched 155,535 regulars from home and the colonies and 1,891 from India, making 157,426, and colonial contingents amounting to 11,584 were brought over sea and 30,319 raised in South Africa, and from Great Britain came 10,731 imperial yeomanry, 11,129 volunteers, and 21,457 militia. In the latter half of 1900 and up to Feb. 1, 1901, the further reinforcements were 16,099 regulars and 1,148 militia, which makes the total number of troops who fought in South Africa 282,379. Of these, 334 officers and 3,680 men were killed in action, 1,242 officers and 14,914 men were wounded, 301 officers and 9,008 men died of disease or wounds, 299 officers and 5,231 men were disbanded in South Africa, 415 officers and 13,716 men were in hospital on Dec. 31, 1900, and 12,323 of all ranks returned to England, 39,095 were sent home sick or wounded, 90 went back to India, and 2,130 regulars and 3,384 colonials returned to the colonies. Before Lord Kitchener attempted aggressive operations the British army was increased to 250,000, making the total number of troops sent out to South Africa over 320,000. Those who had been through the former campaigns were jaded and weakened by their fatigues and the relaxing climate. The fresh troops sent out were inferior in quality to the earlier recruits. In Great Britain 16,000 yeomanry were raised, and these were not fit to be sent into the field. Some of them were sent home as physically incapable, and of the rest Lord Kitchener complained that they could neither ride nor shoot. The effective force after the arrival of reinforcements remained about 200,000 men, with 450 guns and 248,000 horses and mules. Horses were sent continually at the rate of 10,000 a month, and yet the British mounted troops always lacked horses, although the Boers had a constant supply. Nearly 80,000 mules were purchased in the United States, where the expenditure for horses, mules, and commissary supplies reached £5,000,000. During the first six months of 1901 there were 61,000 fresh troops landed in South Africa. Supplies had to be provided for 314,000 persons directly or indirectly connected with the war, including 70,000 refugees in the concentration camps.

Casualties in the British army in South Africa in the first year, during which regular engagements were fought, were much more numerous than in the second year, characterized by guerrilla fighting. There were 71 officers per 1,000 killed in the first year, and 29 died of disease, whereas in the second year 22 were killed and

15 died of disease. Among the men 20 were killed and 31 died of disease in the first year and 11 were killed and 20 died of disease in the second year. The mortality from disease was twice as great as in the Franco-Prussian War, and that of the private soldiers in battle, though almost as many officers fell comparatively in that war as in South Africa in the first year. The excessive loss of officers was much reduced when they discarded the insignia of rank. Compared with the American war of secession the proportion in all ranks of the killed in South Africa was 25 per cent. greater during regular, but lower in guerrilla operations, while deaths from disease were 40 per cent. lower. The number of Boer prisoners taken before March, 1901, was nearly 17,000, and almost all of these were transported to distant British colonies. About 1,500 who surrendered on condition that they should not be transported were kept in the refugee camps, and some of these joined the burgher police. About 1,000 surrendered to the Portuguese in the Delagoa Bay territory, and these were conveyed in Portuguese transports to Portugal and confined in fortresses. The German Government applied to Great Britain for the release of German missionaries, and it was granted before punishment was inflicted upon them. The United States asked for the liberation of Americans who had been sent to Ceylon, and on its being refused made no further requests on behalf of American prisoners. The losses of the Boers in the campaign of 1901 were about 1,000 a month, and the British losses about the same.

President Kruger sent a protest to the United States Government against the shipments of horses and mules to South Africa, and his agents obtained a temporary injunction, but when it was brought up for decision the United States courts disclaimed any jurisdiction in the matter.

The cost of the war, including provision for the campaign of 1901, was about £175,000,000, of which £127,000,000 were borrowed.

Ex-President Pretorius, when he went on his peace mission, was met outside the camp of Gen. Botha and told that he would not be received; if the British had any proposals to make they should come from headquarters in writing. The emissaries of the peace committee on reaching the laager of De Wet, near Lindley, were flogged and Meyer de Kock also was shot as a traitor, he having circulated documents urging submission among the commandoes. Commandant-Gen. Louis Botha and Lord Kitchener met at Middelburg on Feb. 28 to discuss terms of peace. Lord Kitchener sought to exclude the question of independence from the discussion. Gen. Botha informed him that the Boers were fighting for their independence, and that the war had its origin in the annexation of 1877, an injustice which was not wholly made good in 1881. Lord Kitchener declined to discuss even a modified form of independence, saying that the British Government would never consent to the independence of the two republics. A Crown colony administration would replace the military guard, and it would consist of a nominated executive, with an elected assembly to advise the administration, to be followed after a period by representative government. After a complete suspension of hostilities amnesty would be granted in the Transvaal and Orange river territories for all *bona fide* acts of war. Boers as well as others would be allowed to keep rifles for their protection on obtaining a license. The Dutch and English languages would have equal rights, both of them be taught in the public schools where parents desire it and

allowed in courts of law. The franchise would not be given to Kaffirs until the new colonies had representative government. Dutch church property would remain untouched, as well as public trusts and orphan funds. No war-tax would be imposed on farmers. Lord Kitchener answered some questions more explicitly in a letter which was submitted to Sir Alfred Milner and afterward to Mr. Chamberlain, both of whom rejected some of the terms that he wished to offer in order to bring the war to an end. The proposal to amnesty Cape and Natal rebels and only to disfranchise them Sir Alfred Milner objected to as likely to have a deplorable effect in those colonies. The rebels would not be compelled to return to the colonies, but if they did they would be liable to be dealt with under the laws, which in Cape Colony were specifically passed to meet the circumstances arising out of this war and greatly mitigate the ordinary penalties of rebellion. Prisoners of war in St. Helena, Ceylon, India, Bermuda, and elsewhere would be returned, if burghers or colonists, as soon as transport could be conveniently arranged, but Mr. Chamberlain would not consent to the returning of foreigners to South Africa. Military administration would cease and at the earliest practicable date be replaced by civil administration consisting of a governor and an executive council composed of a certain number of official members to whom a nominated unofficial element would from the first be added. A high court would be constituted immediately which would be independent of the executive. The Imperial Government desired to introduce a representative element as soon as circumstances permitted, and ultimately to concede to the new colonies the privilege of self-government. Lord Kitchener proposed that debts of the state should be paid, even if contracted during hostilities, to the extent of the value received and up to the limit of £1,000,000, and he thought that the British Government would be willing to assist farmers who had suffered loss by the destruction of farms or the capture of stock. The Secretary of State was willing to put aside £1,000,000 to repay burghers and Uitlanders whose goods had been commandeered before annexation or forcibly taken afterward, but not to compensate any who had withheld their goods from the British to furnish them to the Boers; he would not consent to a grant to enable farmers to begin operations, but was willing to consider the question of loaning them money for the purpose of repairing injuries sustained by the destruction of buildings or losses of stock, but on condition of their taking the oath of allegiance, which would apply also to the privilege of having firearms. As to the Kaffirs, the franchise should always be so restricted as to insure white predominance, but their legal position must be similar to that which they hold in Cape Colony. Sir Alfred Milner desired, and Lord Kitchener more strongly, to have the Imperial Government promise money to the Boers whose farms had been destroyed as a free grant, not a loan. The exact terms of peace were presented to Gen. Botha on March 7, and on March 16 he replied that he could not recommend them to his Government and that his Government and chief officers agreed with him that they were unacceptable. Mr. Chamberlain sent instructions to Lord Kitchener not to reopen negotiations, and if he received any further suggestions from Botha or the other leaders not to reply, but to forward them, lest the Boers should be led to suppose that terms more favorable to them would be considered.

Gen. Botha in his interview with Lord Kitch-

ener complained of the armed Kaffirs in the British camps who committed atrocities, and the British general admitted that he employed Kaffirs as scouts. The ill-treatment of Boer families during their removal to refuge camps he attributed to lack of transport, and promised that where transport was not available they should not be removed. The families must be removed because every farm was a store for burghers, and he saw no other way of ending the war, and Kaffirs must be employed as scouts because the British were unfamiliar with the country. The Basutos were from the beginning of the war courted and threatened by both belligerents, not to induce them to join in the fighting, for both told them that it must be a white man's war, but because they were accustomed to supply mealies to the Free State Boers and to work on their farms in harvest-time, and because they had many cattle and excellent horses. The Paramount Chief Lerethodi and Jonathan Molapo remained loyal to the British, for which reason Jonathan's brother Joel and the enemies of the Paramount Chief were partisans of the Boers. The Resident Commissioner armed a force to defend the border when the Boers had the British besieged in Wepener. The Boers gave arms to their Basuto friends, and the Basutos fell to fighting among themselves. Mocheko's revolt was quickly suppressed by Lerethodi, but Jonathan Molapo and his allies, partly armed with rifles, were not easily overcome. The pro-Boer chiefs openly supplied horses, cattle, and harvesters to the Boers and the loyal chiefs did the same thing secretly. When the British army was greatly in need of remounts 10,000 Basuto ponies were purchased. More were obtained later in exchange for breeding cattle taken from the Boers.

Sir Alfred Milner went to Pretoria in March to take charge of the civil administration of the Transvaal. Mr. Fiddes was appointed Secretary; Patrick Duncan, Comptroller of the Treasury; Richard Solomon, Attorney-General; Sir Godfrey Lagden, Commissioner of Native Affairs; Mr. Wybergh, Commissioner of Mines; Mr. Rose-Innes, Commissioner of Public Works. Gen. Baden-Powell arrived in South Africa at the same time to take command of the South African constabulary, which was intended to replace the military in the settled districts. Lord Kitchener agreed to allow a few workmen to return to the Rand on condition that they should receive no more than 5s. a day, the pay of the colonial and imperial soldiers. This offer attracted none of the Uitlanders, but when it was arranged that the rest of their wages should be paid to their families at the seaports there was no difficulty in getting the number who were allowed to return, 15 to each mine that was permitted to be reopened, 3 mines, and eventually 7, working 50 stamps each. The first men who returned to Johannesburg were enlisted in the mine guard, as mining operations could not begin regularly without native labor. Such labor was afterward obtained in the northern Transvaal. The enlistment of all miners in the Rand rifles was made compulsory.

The civil administration of justice was formally inaugurated by the High Commissioner. Resident magistrates were appointed with powers to impose punishments up to three months' imprisonment, or in the case of natives 12 lashes, and to adjudicate in civil cases up to the limit of £100 in actions for debt or land titles and £500 on commercial paper. Special criminal courts for Pretoria and Johannesburg could sentence offenders to prison for twelve months or

inflict a penalty of 25 lashes on natives, but in more serious cases sentences had to be confirmed by the Attorney-General. The military courts in Pretoria and Johannesburg, which had to deal with martial offenses, death sentences requiring the confirmation of the commander-in-chief, were abolished. The results of Lord Kitchener's first aggressive operations, which stirred up the Boers to fresh activity in both republics and in Cape Colony and Natal, revealed the impossibility of organizing a civil administration at that stage. Sir Alfred Milner obtained leave of absence and went to England, and on May 9 Lord Kitchener assumed the offices of High Commissioner and Administrator of the Transvaal and Orange River Colonies.

A provisional municipal administration of Johannesburg and Pretoria was instituted by the appointment of town councils before the departure of Sir Alfred Milner. In the selection of officials and in his policy in regard to native labor, the cost of which the mine managers expected to reduce by $33\frac{1}{3}$ or 50 per cent. under British rule, and in other matters, Sir Alfred Milner was charged with being guided by the views of the Rand capitalists, especially Eckstein & Co., the representatives of Wernher, Beit & Co., who control nearly half the mines of the Witwatersrand. On July 1 Lord Kitchener issued a proclamation to protect from foreclosure or forfeiture and to release from the payment of interest or other contract obligations during hostilities British and other Uitlanders who had purchased farms or leased mineral lands from burghers before the war. The organization of the South African constabulary was completed by the beginning of July. A special criminal court with jurisdiction over the whole of the Orange River Colony was constituted at Bloemfontein on July 1, its decisions to be confirmed by the administrator. The mines produced 25,000 ounces of gold in July. Permission was given for several hundred more workmen to come and for additional mines to be opened. The mine operators and the Uitlanders generally were impatient at the delay in throwing open the mines. The danger of the food-supply being cut off was the chief reason for still shutting Johannesburg to the Uitlanders. In the supplementary estimates voted by the British Parliament for 1902 was the sum of £6,500,000 for a grant in aid of the revenues of the Transvaal and the Orange River Colonies.

The invasion of Cape Colony was undertaken partly as a diversion to enable Botha to take the field with his reorganized force. De Wet's venturesome and unsuccessful incursion had specially this object in view. Lord Kitchener's concentration for the protection of the lines of railroad frustrated the plan, enabling sufficient troops to be detached and swiftly moved by rail to take care of De Wet without weakening the mobile forces in the Transvaal to such a degree that they could not overwhelm Botha. Cape Colony, however, was left to defend itself as best it could. De Wet's force was cornered and driven back and scattered, but little notice was taken of other commandos which gradually made their way south, and from their bases in the mountains made themselves masters of Cape Colony in spite of all the colonial and irregular corps that were pitted against them there. They gained all the recruits they wanted among the Cape Dutch in the districts where they established themselves. At times they endured hardships, yet mostly they were well supplied with provisions, horses, and arms intended for the British army. They derailed and plundered railroad-trains, seized the

horses and country products that the British had requisitioned for their own use, rode into towns and fitted themselves out at the stores, surrounded detachments of troops that were hunting them and took away their horses, rifles, and bandoliers. Assistance and intelligence were freely given by the Cape Dutch, and on such as gave their support to the British they took vengeance, and swore vengeance on the latest converts and members of the Afrikaner Bond who opposed the rebellion or joined the volunteer corps raised to repel the invaders. The natives employed by the British they flogged with their whips of rhinoceros-hide. Particularly obnoxious Afrikaners were also whipped with the sjambok, just as in the former republics De Wet and other commanders used this instrument sometimes in the case of burghers who did not wish to break the oath of neutrality or to expose their property to destruction by the British in order to compel them to return to the ranks. As also in the north the Boers burned the farms of some whom they considered traitors, so did Kritzinger and Scheepers destroy occasionally the homesteads of some who were regarded as dangerous renegades. The British took still more terrible means to check the rebellion in Cape Colony and to oust the invaders. The law passed by the Cape Legislature to meet the case of the last rebellion punished rebels with fines and imprisonment not very severe and disfranchised them for five years. When the rebellion seemed to grow instead of coming to an end after the defeat and expulsion of De Wet, the common-law penalties, from death down, were declared by proclamation to be substituted for those of the special law. All the prominent members of the Bond who did not take the English side in regard to this latest rebellion were arrested, including Mr. Merriman, the leader of the Afrikaner Bond party in Parliament. Many of the Opposition members of both branches of Parliament had been punished in connection with the first rising, and now the rest were deprived of their seats, and in some cases candidates of the Government were elected to succeed them by the loyalist voters who alone were permitted to exercise the franchise. Nevertheless Parliament was not convened. It was prorogued from time to time, and the laws of taxation and supply were decreed by imperial authority. Whenever rebels were captured they were tried by court-martial and sentenced to the severest punishment. In cases where it could be proved that they fired on the British they were condemned to death and executed. All the people of the neighborhood were compelled to witness some of these executions until public opinion in Great Britain revolted against this reversion to barbarism. It was public opinion that caused Lord Kitchener to recall his order that the children and wives of burghers on commando should receive only part of the rations that were served in the refuge camps to other refugees. The innumerable irregular corps that were sent out against the guerrillas were of all sorts of material. They were allowed to live on the country, like the Boers, and besides their pay of 5s. a day or more they got a percentage of the loot that they brought in. The Uitlanders and colonials were often physically unfit for service as well as without training or discipline. The most successful fighters were the Australians. The methods adopted by these corps in dealing with the rebellion in the colony made the inhabitants more bitter and helped to spread the rebellion. When the Boers began to swarm into the colony the military authorities sent a large military force from the north after

having broken up Botha's army, and expected to be able to run them down or drive them into the arms of another column by swift pursuit. Kritzinger was several times almost hemmed in between two or three British columns and the flooded Orange river. These tactics failed. The Boers succeeded in gaining the mountains that cross the center of the colony. Lord Kitchener formed a plan of surrounding them there and barring the passage of the Orange river. But the British soldiers could not penetrate these mountains nor even keep the Boers from making raids in various directions. At the end of two months the commandoes were much stronger and the spirit of rebellion in the colony more implacable. Lord Kitchener then sent more brigades to Cape Colony and entrusted operations there to Gen. French.

The Boers employed Kaffirs as drivers and in all manual work. When the English began in the course of the guerrilla war to use them as spies, guides, and scouts they raised a protest, and when they caught natives who were aiding the British in this way they punished them terribly. It was understood on both sides that the blacks were to take no part in the warfare. To South Africans, British as well as Dutch, the idea of drawing the black populations into the conflict seemed repugnant and dangerous in the last degree. The British military authorities, wishing to deprive the Boers of the supplies and the labor which they were accustomed to draw from the Kaffir tribes, sought to gain these over by gifts and promises and gave them firearms to defend themselves against the Boers. In Rhodesia the beleaguered garrison of Mafeking put rifles into the hands of the natives, and could not have held out without their aid. In the guerrilla warfare Cape boys and Hottentots with the British columns were frequently furnished with weapons when a body of British troops was in a tight place. The Boers less frequently armed their trustiest servants in similar circumstances. Mr. Chamberlain more than once intimated the intention of raising colored corps to fight the Boers, denying that there was any agreement to the contrary. A few companies were actually recruited. When the policy of clearing the country was put into active operation corps of cattle-rangers were recruited who received 10 per cent. of the value of all the cattle and horses they brought in. A burgher corps was enlisted at Bloemfontein for this and for police and defensive duties, and tempting inducements were offered to attract surrendered burghers to the British service. When in the operations against Botha it was desired to clear the eastern Transvaal, Zulus were employed in bringing in the live stock, of which they received a share. The Natal Government protested strenuously against the employment of armed Zulus for such or any warlike business. Botha after the British brigades were withdrawn sent commandoes into Zululand which stripped the Zulus of their own cattle and property and the arms that the British had given them.

After the dispersal of the armies of Botha and De Wet the campaign was carried on by means of drives, in which a number of columns swept through the country in parallel or convergent lines, clearing the country at the same time by burning all the farm-buildings and the stores of grain, fodder, and other movables, capturing the cattle and horses, and taking the women and children off to the concentration camps. The men on commando were invariably able to dodge between two columns and get in the rear of the British, excepting small unmounted parties or insignificant commandoes that were caught by surprise

with the aid of informers or Kaffir scouts. Some of the Boer families left their farms and took refuge in caves or built huts in the kloofs of the mountains, where they were safe unless some native spy revealed their hiding-place. The eastern Transvaal was partly cleared during the operations against Botha. The first active operations with mounted troops were undertaken by flying columns carrying rations for ten days. They were directed against De Wet, whose commando scattered when it passed the Orange river in the retreat from Cape Colony and assembled again a week later, and against the commandoes of Brand and Hertzog in the southwest, Piet Fourie, Kritzinger, and Scheepers in the southeast, and Hasbroeck and Theron in the northeast of Cape Colony. De Wet, who had passed with his whole force unperceived through the defensive line stretching from Bloemfontein to Thabanchu, was not to be caught by flying columns of raw troops. The convergent movement of troops with regular commissariat, which had failed in Gen. French's advance upon Ermelo, was successful in the Zoutpansberg, the bush veld of the northeastern Transvaal, where the routes are few and the Boers could only flee before the British columns, not slip through as Botha's troops were able to do in the high veld. The seat of the Transvaal Government was removed from Pietersburg to Bothasberg and thence to Roos Senekal when Gen. Louis Botha developed his movement in the eastern Transvaal. Simultaneously with Gen. French's pursuit of the scattered bands of Botha's army to the Swaziland frontier Gen. Plumer was sent up to occupy Pietersburg and the drifts of the Olifants river in order to prevent the escape of the hunted Boers into the Zoutpansberg and Waterberg districts. He occupied Pietersburg on April 7, the Boers having evacuated it during the night. This town had been the chief base of supplies for all the Boer commandoes in the Transvaal, supplying meal and flour ground there in large mills, salt from the Zoutpansberg, clothing and saddlery, even powder manufactured by the Boers, so poor though that it was not used when Lee-Metfords and English cartridges could be captured. While at Pietersburg the Boers operated the railroad for 120 miles to Warmbaths. The winter grazing was good in this district. So long as the Boers remained there in force the British were afraid to advance on account of the supposed danger and difficulty of campaigning in the bush veld. Non-combatant burghers surrendered in Pietersburg, but through an error a gap was left in the cordon on the Olifants river, through which Commandant Beyers with about 2,000 men escaped to join Delarey. Gen. Sir Bindon Blood had command of the entire encircling movement, the main object of which was designed to drive in the Boer forces south of the railroad and capture the Transvaal Government and the principal army still in the field. The main divisions of that army under Louis Botha and Gen. Viljoen had no difficulty in doubling out of the drive. Many small bodies which remained were caught in the strengthened cordon on the Olifants river and in a convergent movement in Tantesberg and Bothasberg. The Boer Government fled from Roos Senekal, which was captured on April 22, to Ermelo, and thence toward Carolina, hiding when the British columns were present, and boldly coming out into public operation when they were gone. Every town taken by the British was reoccupied by the burghers after their columns had passed on, so that Botha was as fully in command of the district as he was before the drive. Gen. Blood's columns were successful, how-

ever, in bringing in over 1,000 surrendered and captured burghers, in digging up several buried guns, in carrying away cattle and supplies, and they took to the refuge camps thousands of women and children. On June 13 a large force of Boers surprised and captured at Wilmansrust 400 men of the Victorian regiment, who surrendered after losing 18 killed and 44 wounded, giving up 2 guns and large numbers of rifles and horses and a supply of food, clothing, and ammunition sufficient to last them a long time. Gen. Beatson by calling the Victorians white-livered caused a mutiny in the regiment, and to appease the Australians the mutineers were pardoned after conviction.

Commandant Delarey in the southwest Transvaal was the most aggressive of the Boer commanders, and for a long time was left in undisputed possession of the Magaliesberg region. Lord Methuen's outpost at Lichtenburg was attacked on March 3 by 1,500 men with 1 gun, and in a fight lasting nearly a whole day and night the Boers lost 60 and the British 42 killed and wounded. Gen. Babington marched from Naawpoort, compelling the Boers to retreat to Hartbeestfontein. On March 22 they attacked a detachment of cavalry near Geduld, but were repulsed with a loss of 24 men. The main body was driven back by the strengthened British column, losing a convoy at Zwartlaagte, where they left 54 killed and wounded on the field and 140 prisoners and 3 guns and 6 Maxims in the hands of the British. On April 14 Lieut.-Col. Sir Henry Rawlinson surprised the laager of Commandant J. C. Smuts at Goedvoruitzicht, taking 23 prisoners and 2 more guns and inflicting a loss of 16 killed and wounded. Gen. Delarey then concentrated his commandoes, numbering 2,000 men, in the hills about Hartbeestfontein. On April 22 he conducted at Brakspruit another determined but unsuccessful attack on a convoy, losing 18 killed and wounded. Lord Methuen brought up his force to cooperate with Gen. Babington, who had his base at Syferkuil. In an engagement near Brakpan he took from the Boers a gun. The British force continued to receive reinforcements, and in May Delarey abandoned Hartbeestfontein. There remained no large Boer force in the field. In July the total strength of the commandoes was estimated at 13,500, and in the operations by flying columns that ensued the Boers who voluntarily surrendered or were taken prisoners were about 1,000 monthly. Of the British about 4,000 were killed, wounded, or invalided every month. On May 27 Gen. Dixon's column, 1,400 strong, was fiercely attacked by Gen. Kemp's commando at Vlakfontein. Two guns were taken by the Boers and gallantly recaptured by the Derbyshire battalion. The British lost 60 killed and 120 wounded, the Boers almost as many. On June 6 Gen. Elliot's column captured a part of De Wet's supplies near Reitz in a stubbornly contested engagement in which the British lost 45 killed and wounded and the Boers 20. In consequence of raids into Natal from the Orange border Lord Kitchener had farms cleared from Sunday river to the Tugela. Commandoes from Amsterdam and Piet Retief compelled one post of Steinacker's Horse to evacuate Bremersdorp in Swaziland with a loss of 10 men and captured another. Gen. Walter Kitchener's and Gen. Campbell's columns were intercepted in the defile of the Selous river by Gen. Viljoen's men, but drove them off with artillery and even captured 2 machine-guns by a flanking cavalry attack. Gen. Blood's columns continued to scour the Carolina district, and the column under Walter Kitch-

ener operating north of the railroad finally drove Ben Viljoen across the Olifant river. Gen. Broadwood surprised the members of the Free State Government at a farm and captured most of them. President Steyn only escaped by mounting a horse and riding away half clothed.

The southern winter season was taken up with drives in parallel order and in convergent lines. The Orange Colony, the Transvaal, and parts of Cape Colony were traversed again and again, with no important military results. The country was cleared, however, thoroughly devastated, and all the families within reach were concentrated in the refuge camps surrounded by barbed wire and guarded by British sentries. The plan of night surprises was then tried. A column would march 5 or 10 miles, and then double back after dark, or a small force would be led by a spy to some Boer rendezvous. Some slight successes resulted from this change of tactics at first. Small parties of burghers were surprised, though occasionally the detachment fell a victim to a counter-surprise. Soon the burghers learned to guard against these night raids. The 80 British columns marched and counter-marched by day and by night, and merely wore out the soldiers and their horses. The Boers could no longer cross the railroad between Bloemfontein and Pretoria except in small parties because the blockhouses were only a mile apart, and working in conjunction with them were posts and mounted patrols on each side. There were 3,000 miles of railroads requiring protection, and 2,000 miles of these passed through a hostile country, requiring a permanent guard at every culvert. About 75,000 troops were necessary for this work, besides garrisons in the principal towns on the railroads and at particular defensive posts, which left only one-third of the effective British force free to operate against the enemy. Refugee camps were established at Irene, Kroonstad, Brandfort, Bloemfontein, and Aliwal-North in the Orange Colony, at Pretoria and other points in the Transvaal, and when the west was cleared at 2 or 3 stations near the border. Gen. French, who was placed in charge of the operation of clearing the Orange River Colony, carried out the work of denudation in a thorough manner. Except along the railroads and in the towns military occupation was not attempted excepting within a radius of 15 miles round Bloemfontein and small areas surrounding other garrison towns. An outer circle was protected by the South African constabulary strengthened by lines of blockhouses. In the occupied areas cultivation was carried on by surrendered Boers, and at each garrison town was a Government farm where vegetables and fodder were grown for the soldiers and their horses, the total area thus planted being 2,000 acres. To prevent Kaffirs from supplying food to the burghers or otherwise aiding them, they too were collected in concentration camps to the number of 40,000 in the Orange Colony. There were 60 British columns of from 200 to 2,000 men operating in July, and later as many as 70 columns. The Magaliesberg and adjacent parts of the western Transvaal were cleared. Boer families were found who were peacefully reaping their crops under the impression that the war had ended in their favor. The northern belt of the Orange Colony was also cleared. A third field of active operations was in Cape Colony, and this was the most difficult.

The surviving members of the Transvaal Government and Commandants Botha, Viljoen, and J. C. Smuts were inclined in May to give up the struggle, as burghers were surrendering, ammunition nearly exhausted, and food hard to get, and

with impending destruction of the nation all hope of preserving national sentiment would be lost. Mr. Steyn was not discouraged. He hoped for European complications, and relied on the growing uneasiness of the public mind in England. The Transvaal leaders proposed to send an agent to President Kruger to report the desperate condition of affairs, or if they could not do this to ask for an armistice in order to obtain the opinion of the inhabitants of the two Boer states as to making peace. Since the Free State Government did not favor a peace policy they determined to get the opinion of President Kruger and the deputation of the republics in Europe. Accordingly Gen. Botha asked Lord Kitchener to allow messengers to go to State-President Kruger in Europe to report to him the military situation with a view of terminating the war. Lord Kitchener was willing to forward a cipher despatch, which was accordingly sent. President Kruger and the Boer deputies, Dr. W. J. Leyds, A. Fischer, A. D. W. Wolmarans, and C. H. Wessels, replied that they still had hopes of a satisfactory ending of the long struggle, which the burghers should continue, while they on their part would see that the captive women and children and the prisoners of war would be provided for. On receiving this reply Schalk Burger, President Steyn, Louis Botha, and J. H. Delarey had a conference at which they resolved that, taking into consideration the material and personal sacrifices made by the Afrikaners of Cape Colony and Natal and the unbending persistence shown by the great majority of the men and women of the republics, they would accept no peace conditions by which the national independence and existence of the republics and the interests of their colonial brothers should be the price paid. They believed that after the destruction already done and the losses suffered the surrender of independence would result in the extinction of the Afrikaner nationality. Their determination to prosecute the war vigorously for the maintenance of independence was proclaimed on June 20. Steyn, De Wet, and Botha sent letters to Lord Kitchener stating that they intended to go on fighting. Peace delegates from the Afrikaner Bond of Cape Colony, ex-Ministers Sauer and Merriman, were sent to England, and they pleaded to be heard at the bar of the House of Commons, but they received little attention.

On Aug. 7 Lord Kitchener issued a proclamation on instructions from the Colonial Secretary declaring that, whereas the Orange Free State and South African Republic had been annexed and British forces were in possession of their seats of government, machinery of administration, principal towns, and railroad lines, and whereas 35,000 burghers were prisoners or had submitted and those still in arms were few in numbers and without guns or regular military organization, and therefore unable to carry on regular warfare, but continued to make isolated attacks on posts and detachments, to plunder and destroy property, and to damage railroad and telegraph-lines, therefore all field-cornets and leaders of armed bands still resisting the British forces and all members of the governments of the Orange Free State and the South African Republic, unless they surrendered before Sept. 15, would be permanently banished from South Africa and the cost of the maintenance of the families of all burghers in the field who failed to surrender before that date would be a charge on the property of such burghers.

The Boers, though courageous, were not aggressive at any time, and their natural caution

helped their present tactics, directed to prolonging the war so as to wear out the patience of the British people and benefit by the political reaction which the cost of the war in blood and treasure would produce in time. They were disappointed in the expectation of seeing any party in England come forward in favor of their independence. Only the Irish party took that ground. Even the Radicals declared annexation to be irrevocable, though they held out a prospect of self-government which Mr. Chamberlain shut off when he altered Lord Kitchener's pledge of elective colonial government at the earliest practicable moment into a promise to introduce an elective element after an indefinite period of Crown colony government. The Boer commanders were the political leaders, being elected to their position by political methods. The lack of discipline and cohesion in the Boer armies and the degree of initiative assumed by the inferior officers were favorable to the guerrilla operations. Although fine shots, the Boers were not such excellent marksmen as of old. Their shooting qualities were those of still hunters, not of soldiers, and they would not hold a position to the last. When offensive operations were undertaken it was always the foreigners who bore the brunt of the fighting. The religious sentiment predominated in the Boer camps and they grieved at the slaughter they inflicted on the enemy no less than at their own defeats. On the halt and in camp they read the Bible or sang psalms. They tended the British wounded with as much care as they did their own and treated their prisoners kindly. When a movement was proposed which was not agreeable to the men no officer would make a move; consequently many well-planned affairs were ruined. Their lack of capacity for the offensive prevented them as a rule from enjoying the fruits of a tactical victory. From the beginning Boers occasionally violated the rules of war, and so did the British. When Lord Roberts, and afterward Lord Kitchener, repudiated the accepted customs of war on the ground that the Boers had adopted guerrilla tactics, treating them as rebels, and later as bandits, a designation against which they feelingly protested, Botha and Delarey still observed the rules of battle, but Kritzing and other guerrilla leaders adopted barbarous methods in retaliation. When the hangings of Cape rebels began the Boer delegation in Europe unanimously advised the shooting of an English officer for every Afrikaner that was hanged. President Kruger, however, would not give his consent to the killing of prisoners. The Boer families in the concentration camps were invaluable to the British as hostages. In spite of the blockhouses dotting the railroads and the armored trains constantly within call patrolling every section of the line, the Boers could destroy trains and cut the line almost where and when they pleased. Their knowledge of the movements of the British was perfect, and the feeling that every inhabitant of the country, white or black, was a probable spy was exasperating to the British commanders. In the refuge camps the Boer women knew about battles before the official report was issued, and every movement of British troops found the Boer commandoes prepared. The train-wreckers always let supply-trains destined for the concentration camps go through and blew up and plundered only those carrying supplies for the troops. In certain sections of the railroads, by an arrangement with the trainmen, who deposited flour, coffee, and sugar for them beside the track, they refrained from destroying trains altogether. The blockhouses and armored trains could not prevent

the wrecking of supply-trains even when supplemented by a double line of posts and patrols on either side of the line. There was no point where a Boer could not creep up to set a rifle-lock connected with a dynamite cartridge to derail a train. In Cape Colony and in both republics the commandoes several times fitted themselves out with food and munitions from wrecked trains. In the first six months of 1901 the Boers derailed 43 supply-trains. There were many sections so poorly guarded that the Boers could have easily damaged the railroads permanently and cut off all supplies for the British garrisons. The Boer families in the concentration camps were hostages to prevent such a catastrophe. The burghers knew that their own families would be allowed to starve first. After a train was wrecked on Aug. 31 north of Pretoria and the commander and several men of the guard of 45 men shot down by Jack Hinton's commando, Lord Kitchener gave notice that prominent burghers would be placed on trains thereafter, following a precedent set by the Germans in the French war. This precedent, however, was condemned at the time and since by international lawyers, who hold almost unanimously that the laws of war give no rights over prisoners or hostages except that of keeping them in captivity. The Boers always had accurate information of the movements of British troops and the expected arrival of supplies. Many times the rations of the troops had to be reduced in consequence of the destruction of trains. Information could be conveyed to the enemy only by their friends in the towns. A more careful watch was kept, with the result that many burghers of Pretoria were caught who were in the habit of going out to the Boer commandoes. The head of the Boer intelligence department was believed to be Dr. Broecksma, formerly public prosecutor of the South African Republic. He was tried and hanged as a spy. Other prominent Hollanders and burghers were tried and punished for treachery and spying, and Mr. Nieuwenhuis, the Netherlands consul, was so connected with them that the British Government demanded his recall. Dr. Krause, a Transvaal burgher practising-law in London, was arrested and tried there, although he had always been classed with the pro-English Afrikaners. Some Boers who took the oath of neutrality when Pretoria was occupied were caught while attempting to steal out of the city to join a commando in June. They were carrying arms and wounded a sentry, and by sentence of a court-martial were shot. After that no night passes were allowed, and householders in all Transvaal towns were obliged to post on their front doors a list of the inmates of their houses and were held responsible for their presence.

The inmates of the concentration camps consisted of the families of burghers who had been killed in battle or were exiled prisoners, the families of those still fighting in the field, and burghers and their families who had voluntarily surrendered. These last, the "handsuppers," were treated with coldness and scorn by the others, who amid their severest privations and sufferings were even more earnest and resolute in their patriotism than their husbands and brothers on commando, as the Boer women have always been. The knowledge which reached these women in the camps of everything that was going on and the secret channels of communication between them and the commandoes puzzled the English intelligence officers and could not be fathomed. Very early the conditions of life in the camps shocked the world and roused in England feelings

of shame and indignation even in imperialist circles, though some blamed the Boers, who continued their hopeless resistance and who caused British soldiers as well as the refugees to go hungry by robbing provision trains and had caused great loss and suffering to the 50,000 Uitlander refugees from the Transvaal. In the first four months of 1901 there were 284 deaths in the Boer refugee camps of the Transvaal, and in the Orange River Colony camps 41 men, 80 women, and 261 children died. Emily Hobhouse, who was sent out by an English charitable society, wrote home of insupportable conditions in the Orange River Colony camps—of overcrowding, of lack of food, water, clothing, bedding, even soap, of medical care and nursing, and told of famished children dying and diseases raging with no organized effort to stop them. She was not allowed to visit the Transvaal camps, and when she came over from England a second time the military authorities expelled her from South Africa. The conditions grew steadily worse as the process of clearing whole districts was carried out by the flying columns without provision being made for the reception of the people. Filth and hunger diseases and unchecked contagion swept off adults and, above all, children. In June the annual rate of mortality per 1,000 in the camps rose to 159 at Kroonstad, 167 at Kimberley, 162 at Vredefort Road, 178 at Springfontein, and 383 at Bloemfontein. At Winburg it was 103, at Brandfort 74, at Norvals Pont 70, at Bethulie 50, at Aliwal North 35, at Heilbron, where the refugees were quartered in houses, only 26. The average death-rate was 117, and later it was 162. The refugees, sometimes 12 in a tent, slept on the bare ground without covering, saturated with rain and dew, fed with spoiled meat and meal, lacking fuel even for cooking. The military authorities, having shipped back to Europe the Dutch, French, German, and Swiss Red-Cross ambulance doctors who attended the Boers in the field and refused to allow others to come, now refused to allow a Swiss medical mission to come to attend the Boer women and children in the camps where the medical service was insufficient, even to separate the children suffering from measles and scarlatina from the rest. The mortality in the camps increased to 264 per 1,000, and among the children it rose in September to 440 per 1,000 per annum, a rate that would exterminate the young generation within two years. The transport facilities being insufficient to feed properly the refugees, the Government was urged to transport them all to the coast, but refused. The military authorities would not at first allow refugee families to go to friends at the Cape who would provide for them. Camps were established later at the coast, where the mortality was little above the normal, and for military reasons, to stop communications between the fighting Boers and their families, it was decided to send the families of Boers on commando as they were brought in to Cape Colony and Natal. The insignificant extent of country actually occupied after Lord Kitchener reversed Lord Roberts's policy of attempting to protect districts, when he withdrew all troops to the railroads and principal towns, afforded no base for the pacification of the country, and therefore he was compelled to extend his lines of blockhouses away from the railroads and enclose districts where agricultural operations could be carried on under the protection of the blockhouses and the South African constabulary. In the districts around Bloemfontein Kaffirs whose farms had been cleared or who had been brought in with the Boer families were released from the native

refugee camps in order to till pieces of ground allotted to them with the right of retaining the first and a share of subsequent crops. The blockhouses were of a pattern invented by Major Smith for the better defense of Ladysmith, consisting of hexagonal erections having bullet-proof walls made of two sheets of corrugated iron filled in between with gravel, with loopholes for 10 or 15 men. The Boers avoided these blockhouses for a time; then they devised a plan for attacking them and captured one after another by stealing up to the walls and using the loopholes against the defenders inside. The military authorities were on the point of abandoning the system when a method of preventing such attacks was found in entanglements of barbed wire in a broad lacework so interwoven that they could not be cut. For the protection of bridges masonry fortifications were built. The first line of blockhouses away from the main lines of transportation was the defensive line from Bloemfontein through Thabanchu to Ladybrand, intended to divide the northeastern part of the Orange Free State from the southeastern districts. When De Wet and his commando broke through at Springhaans Nek the number of posts was increased. Gen. Clements surrounded Pretoria with a ring of blockhouses to protect the town from Boer raids. A chain of blockhouses was afterward carried west from Bloemfontein to be manned by constabulary, and gradually extended along the Modder river to Jacobsdal, with a ramification stretching through Petrusburg to Fauresmith. Blockhouses were employed later in clearing and holding difficult parts of the Transvaal, such as the Schurveberg and the Zwart kopjes northwest of Johannesburg, Commando Nek in the Magaliesberg, which was connected with Krugersdorp by a chain of blockhouses, and the line of the Mooi river. In the autumn a line of posts was built between the Wilge river on the railroad to Komatipoort and Greylingstad on the railroad to Standerton. It was decided also to extend the line from Krugersdorp through the Losberg. Besides the infantry garrisons in the blockhouses mounted troops patrolled day and night between them. In October the Bethel district in the eastern Transvaal where the republican Government had long held sway was made the field of blockhouse extensions. The railroad from Pretoria to Pietersburg was protected by these erections, and they were placed along all the exposed branches of the Cape railroad network. Still the enclosed areas were not sufficiently cleared or sufficiently protected in any part of the republics or in the disaffected districts of the old colonies to allow the resumption of farming and other business.

Lord Kitchener's proclamation had not the slightest effect in leading the active Boer commanders to surrender, some of whom had already lost their families, others their property, and none of them cared to come under British rule. It made the conflict more bitter and desperate. The Boer deputies in Europe made the proclamation the pretext on which a fresh appeal for arbitration was made, which was addressed to The Hague Tribunal. That body took no notice of the application, because it had no power of initiative and can only act on the application of both interested parties. Lord Kitchener in a subsequent proclamation ordered the sale of the properties of burghers still in the field to provide for the maintenance of their families. Whenever a Boer officer was captured after Sept. 15 a sentence of perpetual banishment was promulgated. Martial law in Cape Colony caused many who had secretly aided the commandoes or who had

been suspected of doing so to join them. Others who were wavering or inclined to the peace party became rebels when friends, relatives, or neighbors were hanged. Many were alienated by the hardships which the application of the military laws brought upon themselves. Even the loyalist colonists smarted under a régime that stopped all business and subjected them to the tyrannical caprices of the local commandants. A written permit was required for every act. At an early hour in the evening everybody had to be indoors with all lights out. Foreign newspapers and periodicals were interdicted and English papers were kept back for weeks by the censor. The farmers had all their horses and most of their cattle requisitioned at prices mostly far below their worth, though some favorites got more than the value of their stock. Those who still had beasts to till the land could not take their produce to market without first making a trip to get a pass. All firearms and ammunition were taken away from the whites, and under the circumstances British and Dutch colonists alike saw with alarm the arming of large numbers of Kaffirs and Bastards. In August the country stores in certain districts were closed and all goods removed to large towns to prevent their falling into the hands of the Boers. Country residents were not allowed to have more than enough provisions to last a week. Later whole districts in Cape Colony and Natal were cleared and denuded as in the Boer states. In October martial law was extended to East London, Grahamstown, Port Elizabeth, and the Cape peninsula. No one was permitted to enter or leave by sea or land without a permit, and letters and telegrams were subject to censorship, as well as all newspapers and pamphlets. East Griqualand and Tembuland were placed under martial law because the Boers drew supplies from the natives.

The object of Gen. Sir J. French's operations in Cape Colony, begun in July, was to drive the commandoes northward to the line of blockhouses stretching from De Aar east, or, if they broke through or passed round the end of this line, to chase them over the Orange river. Against Scheepers in his mountain fastness near Graaf Reinet four columns operated. Scheepers had burned the public buildings in Murraysburg. Other columns were chasing Kritzingers, whose force was already broken up. The pursuit of Van Reenen, Fouché, and other leaders was begun at the same time. On July 13 Scheepers's laager in the Camdeboo mountains was captured and 25 prisoners were taken. Five-sixths of this commando and of most of the others were Cape rebels. Scheepers and most of his men escaped, and in the following week at Beaufort West they captured a train from Cape Town loaded with stores and carrying recruits for the British army. Of 113 soldiers on board 21 were killed or wounded. The principal commandoes were scattered over the country between Beaufort West and Queenstown south of De Aar and Stormberg. The British sent into this region the pick of their army, and the extraordinary strength and activity of French's columns kept the Boers on the move. The Herschel district in the north was troubled by parties of Kritzingers's commando, who were left alone, as also were the invaders in the west who received support from the inhabitants. To facilitate his great drive Gen. French had some districts in the center cleared of inhabitants and food supplies. The difficulty of the Boers in the Cape rebellion at this time was not to get recruits, but to provide them with arms. They had an abundance of Mauser rifles buried, but no Mauser

ammunition, and to arm every new recruit it was necessary to capture a British soldier. They had quantities of Lee-Metford ammunition captured from British trains and outposts. While moving about in front of the pursuing columns the Boers frequently blew up railroad-trains as they crossed the line. Many of them knew how to lay a mine by placing the lock of a Martini rifle and dynamite cartridges under the rails. Local troops and British infantry held the passes on the south and east to prevent the escape of any more of the commandoes in those directions while Gen. French carried out his northward drive in August and September. The energy with which the campaign was pressed gradually reduced the numbers of the Boers. They were pressed on all sides, and could no longer roam about at will. The railroads were guarded by blockhouses. Toward the end of July Gen. French decided to abandon the tactics of pursuing individual commandoes, and by a sweeping movement either to drive the Boers against the line of blockhouses extending from De Aar to Stormberg and from Norvals Pont to Naauppoort or drive them across the Orange river. A large number of parallel columns of about 500 men each marched south from the railroad. The Boers slipped between the columns and went north. When the columns had proceeded as far south as Graaf Reinet they swung round, were reinforced, and marched north again. When the columns on the extreme right came into contact with Kritzinger's commando they pressed forward, driving Kritzinger, Malan, and Wessels, with about 400 men, across the Orange river. The commandos of Botha and Lotter in the center were pushed against the blockhouses between Rosemead Junction and Naauppoort, but while five columns were converging upon them they escaped on Aug. 14 over a mountain that was believed to be impassable, and went south again to the Cradock district. Theron's commando also slipped through the line and returned to the Murraysburg district after having on Aug. 10 surprised a body of 68 scouts near Bethesda and taken away their horses and supply-train. Scheepers had kept to the south of the columns and when they turned about he made a dash to Willowmore, but turned to the northwest when columns arrived by train to enclose his little force. He boasted his intention of wintering in the mountains, in which he had collected a great quantity of supplies captured from the British. Kritzinger, Malan, and Wessels were driven before the columns and with about 300 men escaped over the Orange river. Kritzinger was overtaken by Col. Gorringe on Aug. 13 north of Steynsburg, and 20 of his men were killed. He fled with about 70 and crossed the river. Scheepers proceeded southward as far as Uniondale, where he came in contact with the troops of Gen. Beatson. The Boers in the Transvaal and the Orange River Colony sent several large commandoes to the south to support the Boers in Cape Colony. Against this move Lord Kitchener had made preparations by strengthening the posts in Orange River Colony and on the Orange river. Troops were also sent into the Transkei and Griqualand to prevent reinforcements from passing through or the Cape commandoes from breaking in. Hertzog and Latagan appeared with commandoes in the west near Philipstown and were driven back over the Orange river. Scheepers turned back to the northwest, and Theron, whose small force was composed mainly of foreigners, attempted to form a junction with him from the Willowmore district. Myburgh's commando of rebels escaped into Griqualand. The total number of burghers and rebels

still remaining in the Midland districts was estimated at the beginning of September at 1,500. A commando of Free State burghers succeeded in crossing the Orange river east of Herschel in the beginning of September. On Sept. 4 Lotter and his rebel commando were overtaken by Col. Scobell at Bowershoek, near Petersburg, and were captured after a fight in which 19 were killed and 52 wounded. The number of unwounded prisoners was 62. The section of Lotter's force commanded by Vandermerwe was caught east of Laingsburg by Col. Crabbe's column, and in the engagement the commandant and 4 others were killed, 7 wounded, and 37 of his men taken prisoners. On Sept. 18 the commando of Smuts attempted to break through the cordon of columns at Elands river poort by rushing a squadron of lancers, killing 3 officers and 20 men and wounding Major Sandeman and 30 men. On Sept. 20 Kritzinger with a reorganized commando attempted to force a passage of the Orange river and reenter the Colony at Herschel. He attacked a post held by scouts, killed Major Andrew Murray, the commander, and carried off a gun, but was repelled, and the gun was retaken. The British casualties were heavy, and in the counter-attack so were those of the Boers. Executions of Cape rebels were going on during the operations, and Scheepers and the other commandants still gained as many recruits as they could provide with weapons. Lotter was tried and executed for treason on testimony that he was a colonial who had changed his name. All his officers were also to be shot; the men had their sentences commuted to life imprisonment. Scheepers had to leave his commando and retire to a farmhouse to undergo a surgical operation, and there he was captured on Oct. 11. He was tried later for killing native scouts, and admitted that he whipped these scouts whenever he caught them and one he had shot after he had been tried as a spy.

After the issue of Lord Kitchener's proclamation the Boers resumed the offensive in all parts of the theater of war. A commando appeared at Acton Homes, southwest of Ladysmith, and the Natal volunteers were called out for the defense of the Tugela. In the Transvaal Gen. Delarey became active again, making Wolmaranstad his base, retiring when Gen. Hamilton appeared with a large force of cavalry, but returning as soon as the British had left. Col. Williams captured a part of Delarey's transport after a sharp fight near Klerksdorp on Aug. 19. The columns of Kekewich and Allenby continued to scour the Magaliesberg. Gen. Botha reassembled his commandoes and again threatened Natal with a force of 4,000 men. On Aug. 22 a detachment of 68 men belonging to Elliot's column was surrounded and captured after 1 was killed and 4 were wounded north of Ladybrand. In the attack on the guard of a derailed train within 20 miles of Pretoria on Aug. 31 Lieut.-Col. Vandeleur and 9 men were killed and 17 were wounded. The Delagoa Bay Railroad was broken near Komatipoort. In a fight near Jaskraal 16 regulars were killed or wounded. The British captured a Boer laager in the Losberg and took Delarey's brother prisoner. On Sept. 13 Commandant Theron attacked Heidelberg. On Sept. 17 Major Gough, with 3 companies of mounted infantry and 3 guns, was entrapped near Utrecht and after a fight in which 16 officers and men were killed and 29 wounded 155 surrendered. The attacking party belonged to Botha's commando. On Sept. 19 Capt. Tufnell, with 137 infantry and 2 guns, was led into an ambush at Vlakfontein in Orange River Colony, and after a stubborn resistance surrendered. Gen.

Louis Botha with 2,000 men made a dash into Zululand and a feint toward the north, then turned southeast and on Sept. 26 attacked Itala and Prospect forts on the Zululand border at the southeast corner of the Transvaal. The garrisons had been strengthened by Gen. Lyttleton without the knowledge of the Boers. Botha used no guns but kept up the assault on both forts under artillery and musketry fire for nineteen hours, suffering about 400 casualties. Major Chapman could not have held out longer if the Boers had kept up the attack on Itala, having expended all his ammunition. The British guns were disabled during the action. The Boers rushed to the trenches again and again with a daring and persistence that had not before been exhibited on either side during the war, and some passed through the rifle-fire to fall by the bayonet in the trenches. A simultaneous invasion of Natal by his force from the east and De Wet's from the west was planned. One commando made its way into Natal from the Orange River Colony, and others hovered on the border. After his disaster Botha, hard pressed by Lyttleton's columns, was not able to carry out his part of the plan. The cordon was drawn closer around him from Zululand and the Transvaal. On Oct. 6 his main force, 2,000 strong, was attacked by Gen. Walter Kitchener's column northeast of Vryheid and evacuated its position, retiring north into the Pongola forest, where it split up into small groups as the other commandoes had already done, and all slipped through the cordon or hid in kranzes and kloofs until the British troops retired. On Sept. 30 Delarey made a night attack with 1,000 men on Col. Kekewich's camp at Moedwill. The Boers killed 39 and wounded 108 British, including the commander, and then withdrew, taking off the camp supplies. The foreigners of Kemp's commando led the attack, which lasted two hours. Louis Botha returned to the Ermelo district, where the columns of Gen. Rimington and Gen. Rawlinson searched for him in vain. The heavy rains and fogs necessitated a lull in active operations for some weeks.

In December the Boers, though their losses in the last six months had averaged 2,000 men a month and 32,000 horses had been taken from them, displayed renewed vigor. Chris de Wet assembled a strong force with which in the night of Dec. 24 he rushed Col. Firman's camp at Zeefontein, within the quadrangle having Vereeniging, Volksrust, Harrismith, and Kroonstad for its points, which the British had attempted to clear several times and had enclosed with block-houses. There were 6 British officers and 50 men killed, 8 officers were wounded, and 2 guns were captured. The total Boer losses by the war in killed, wounded, and prisoners for the year ending Dec. 31, 1901, were 18,320 men. The number of rifles captured from the Boers or surrendered was 7,993, with 2,300,000 rounds of ammunition. All the guns known to belong to or to have been captured by the Boers, 27 in number, excepting the last ones captured at Zeefontein, were taken by the British during the year. The number of Boer horses taken was 29,882; of cattle and sheep, 366,821. The British casualties in battle during the year were 9,113 men, including 1,513 prisoners who were afterward released. The number killed accidentally was 342; died of disease, 4,090; invalided home, 25,800.

Claims for damages on account of losses incurred by being deported from South Africa were asked by the diplomatic representatives of various countries on behalf of their nationals. The powers acknowledged the legal position taken by the

British Government that a general commanding an army in the field has the absolute right to expel any persons whom he considers to be dangerous, suspicious, or undesirable. It was represented that many persons who had maintained strict neutrality had been expelled and had innocently suffered losses and hardships. Such cases the British Government agreed to examine and to make some compensation where hardship was proved. About 1,800 claims were investigated by a compensation commission. The total amount asked was £1,277,195. There were two principal classes of claimants—the employees of the Netherlands Railroad, belonging to all nationalities, Dutch being most numerous, Germans next; and aliens in Johannesburg of every nationality who were deported by wholesale after the discovery of a plot to murder Lord Roberts and other British officers in July, 1900. As the Netherlands Railroad officials actively aided the Boers in preparations for and the prosecution of hostilities, all employees of the company were required to establish the fact of their neutrality before compensation was allowed. The Johannesburg claimants, on the other hand, were presumed to have been neutral unless something could be shown to the contrary. The claims having been investigated, a lump sum was offered in settlement to each Government, £6,000, for instance, to be distributed among American claimants, and the offers were accepted, the total amount being about £100,000. The British Government decided to acquire the shares and debentures of the Netherlands Railroad. The directors had played so zealous and prominent a part in the hostilities that confiscation was urged. This international law and usage forbade. An offer was made of something under the current market price, and it was accepted. The British Government refused, however, to pay anything for the large amount of stock, 5,107 out of 5,713 shares, owned by the Transvaal Government, out of a total of 14,000 shares, sold for a good price after the beginning of the war to a syndicate of German capitalists. In the cases of deported professional men, railroad officials, missionaries, and others who had renounced allegiance to Germany to become Transvaal burghers the German Government held that they were equitably entitled to compensation because they were expelled as Germans. The English compensation commission refused to take such cases into account.

Portuguese Possessions.—Portugal claimed all Rhodesia and British Central Africa, Portuguese missionaries and slave-traders having formerly penetrated these regions, which were still visited by Portuguese negroes from the east and west coasts, both ancient possessions of Portugal. A British naval demonstration impelled the Portuguese Government, yielding to superior force, to concede to Great Britain the interior. Portuguese East Africa, the inland limits of which are fixed by the Anglo-Portuguese agreement of June, 1891, is divided into the districts of Mozambique, Zambezia, and Lourenço Marques. The Manica and Sofala districts of the interior have been transferred to the chartered Mozambique Company. The company that undertook the development of Inhambana failed. The district between the Rovuma and the Lurio is administered by the Nyasa Company. Gazaland, on account of the recent revolt of the natives, is under military law. In Manica, which borders upon Mashonaland, British miners have registered claims, but however rich in gold the country may prove to be, the mines can not be developed until means of transport are provided. Sugar is cul-

tivated on the lower Zambesi. The Zambezia Company has plantations, mines, and trading-posts. Rubber, ores, wax, and ivory are the principal exports. The value of imports in 1899 was £1,621,500; of exports, £164,200. The transit trade with British Central Africa and Rhodesia was £2,275,000. From the port of Beira a railroad has been built to the frontier of Mashonaland, 222 miles, and thence to Salisbury. The tracks have been widened to standard gage. In Beira were 1,467 whites in a population of 4,130 in 1899. Lourenço Marques, the maritime outlet of the Delagoa Bay Railroad, 57 miles in length to the Transvaal border, whence it is continued 290 miles to Pretoria, had a white population of 5,130 and 1,500 natives. In Chinde were 127 Europeans; in Inhambana, 97. The revenue of the colony in 1898 was estimated at 4,232,326 milreis, and expenditure at 3,945,765 milreis. The military force was 4,888 men, of whom 3,246 were natives. On the west side of Africa, Portugal retains Angola (see PORTUGAL).

German Southwest Africa.—The German protectorate of Southwest Africa has an area estimated at 322,450 square miles. Except in the north it is an arid region, having a nomadic population of Hottentots, Bushmen, Damaras, and Kaffirs estimated at 200,000. There were besides the military force of 761 men, 1,557 Germans in the protectorate in 1899 and 273 other Europeans. There are stations at Windhoek, Gobabis, Otjimbingue, Tsoakhaubmund, Keetmanshoop, and Gibeon, and the ports of Sandwich Harbor, Angra Pequena, and Swakopmund. From the last, where an artificial harbor has been made, a railroad to Windhoek, headquarters of the administration, was begun and 80 miles were done before the end of 1899. The Imperial Government contributed 7,181,000 marks in 1901, of which 2,300,000 marks were to build the remaining 100 miles of the railroad, to the total revenue of 8,174,000 marks. The Damaras have great herds of cattle. Sheep and common goats are also reared. The mineral resources are supposed to be large, but the copper-mines which first attracted the Germans are unprofitable, nor have paying gold-mines been found, though there are indications. The exports are guano, ostrich feathers, wax, hides, and cattle.

British Central Africa.—The British Central Africa protectorate has an area of 42,217 square miles with a native population of about 900,000, 400 Europeans, and 250 East Indians. In the Shire islands coffee has been planted, and in 1899 the export was 1,100 tons. The value of imports in 1900 was £176,000, and of exports £79,000, not including £31,300 worth of merchandise in transit. The principal exports are ivory, coffee, and rubber. The military force consists of 215 Sikhs trained in the Indian army and 1,070 native troops under English officers. A battalion of 1,048 trained natives was sent to Mauritius and afterward to British East Africa. Another force of 300 native troops with 50 Sikhs was sent to Ashanti in June, 1900. Two gunboats patrol the Shire river, and one of 350 tons was launched on Lake Nyasa in 1899. The British Commissioner and consul-general is Alfred Sharp, with Lieut. Col. W. H. Manning as deputy commissioner. The revenue in 1900 was £47,077; expenditure, £96,366.

SOUTH CAROLINA. (See under UNITED STATES.)

SOUTH DAKOTA. (See under UNITED STATES.)

SPAIN, a kingdom in southwestern Europe. The legislative power is vested in the Cortes, con-

sisting of a Senate of 360 members and a Congress of 401 members. Of the Senators half are hereditary, life, and official members and half are elected by the provincial and communal assemblies, universities, learned societies, and the most highly assessed taxpayers. Princes of the royal family, grandees of Spain who have an income of 60,000 pesetas, captains-general of the army, admirals of the navy, archbishops, and supreme court judges are Senators by right of birth or of office. There are 80 of these and 100 appointed for life, and the rest are elected for ten years or the duration of the Cortes. Members of the Congress are elected by universal male suffrage for five years. The Cabinet constituted on Oct. 23, 1900, was composed as follows: President of the Council, Gen. Azcarraga; Minister of State, Marquis Aguilar de Campo; Minister of Justice, Marquis del Vadillo; Minister of War, Gen. Linares; Minister of Finance, Allende Salazar; Minister of the Interior, Señor Ugarte; Minister of Public Welfare, Agriculture, Commerce, and Public Works, Sanchez Toca; Minister of Public Instruction, García Alix; Minister of Marine, Rear-Admiral Ramos Izquierdo.

Area and Population.—The area of Spain is 197,670 square miles. The population on Dec. 31, 1897, was 18,089,500. The legal population was 18,226,040. The number of emigrants in 1898 was 59,543, most of whom went to Brazil, the Argentine Republic, and Uruguay.

Finances.—The ordinary revenue in the financial year 1899 was 842,532,714 pesetas; expenditure, 878,398,568 pesetas. The total receipts from all sources were 921,063,895 pesetas, and the total expenditures 935,422,363 pesetas. In the budget for 1900 the estimate of revenue was 885,998,215 pesetas, and of expenditure 905,451,827 pesetas. For 1901 the revenue was estimated at 934,428,381 pesetas, of which 392,527,730 pesetas came from direct taxes on land, commerce, mines, Government salaries, registration, etc.; 347,140,000 pesetas from customs, excise, indirect taxes, etc.; 163,700,024 pesetas from the tobacco monopoly, the mint, etc.; 21,701,480 pesetas from revenue and 3,020,000 pesetas from sales of national property; 6,255,000 pesetas from the public treasury; and 84,147 pesetas from Fernando Po. The total expenditure was estimated at 926,498,150 pesetas, of which 9,250,000 pesetas were for the civil list, 1,638,085 pesetas for the Cortes, 417,938,480 pesetas for the public debt, 1,518,969 pesetas for the courts of law, 71,780,500 pesetas for pensions, 798,217 pesetas for the Council of Ministers, 4,836,442 pesetas for the Ministry of Foreign Affairs, 53,291,720 pesetas for the Ministry of Justice and Worship, 148,993,659 pesetas for the Ministry of War, 27,686,712 pesetas for the Ministry of Marine, 51,279,884 pesetas for the Ministry of the Interior, 18,553,404 pesetas for the Ministry of Public Instruction, 69,793,519 pesetas for the Ministry of Public Works, 18,336,647 pesetas for the Ministry of Finance, 30,289,515 pesetas for collection of taxes, and 512,387 pesetas for Fernando Po.

The public debt on July 1, 1900, amounted to 9,188,830,792 pesetas, of which 7,068,730,153 pesetas were the state debt of Spain, 944,842,639 pesetas the treasury debt, and 1,175,258,000 pesetas the colonial debt, besides which there were various liabilities of the treasury requiring 16,375,000 pesetas a year for the payment of interest, while interest on the state debt amounted to 307,999,997 pesetas, that on the treasury debt to 23,835,712 pesetas, and that on the colonial debt to 53,873,770 pesetas, making the total interest charge 402,084,479 pesetas. The amount of the foreign

debt was £118,967,929 sterling, of which £59,299,869 were perpetual and £59,668,060 redeemable external debt. Señors Laiglesia and Cornya, delegates of the Spanish Government, made on July 14, 1900, with representatives of councils and associations of foreign bondholders, a convention with reference to the 4-per-cent. external debt which, under the compact made with Señor Camacho, Minister of Finance in the Sagasta ministry, on June 28, 1882, was declared free from all imposts. The law of Aug. 2, 1899, for the reorganization of the debts authorized negotiations for the modification of this compact, which applied to all foreign debts. Señor Puigcerver, Minister of Finance in Sagasta's Liberal ministry of 1898, kept faith with the bondholders, paying the 4-per-cent. coupons in gold without the duty. It was an agreeable surprise in Spain when the delegates succeeded in inducing the foreign bondholders to forego $\frac{1}{2}$ of 1 per cent. of their interest on condition that it should be applied to amortization, thus taking upon their own shoulders the whole cost of the extinction of the debts without requiring any sacrifice from the Spanish treasury. The bondholders feared that the tax of 20 per cent. which was deducted from the interest on all Government debts paid to Spanish holders would be imposed on their coupons, although no proposal to that effect had been made by the Government or by any important political party.

The Army.—The permanent army on the peace footing has a legal strength of 98,140 men, inclusive of 18,140 gendarmes, to be raised in war to 183,972 men. All able-bodied Spaniards at the age of nineteen can be called into the service unless they purchase exemption by paying 1,500 pesetas. The annual contingent of recruits is fixed at 80,000 men. The whole period of service is three years in the regular army and three years in its reserve, after which they are transferred for six years to the sedentary reserve. There are 64 active regiments of infantry and 55 regiments in the reserve, 15 battalions of chasseurs, 28 active and 14 reserve regiments of cavalry, 16 regiments of field and mountain artillery, 10 battalions of fortress artillery, 1 regiment of siege artillery, 4 regiments of sappers, 1 regiment of pontonniers, 1 battalion of railroad troops, 1 battalion of telegraph troops, and 6 companies of sanitary troops. The depot battalions are being increased and each reserve battalion has its district with the object of forming a separate regiment in case of war. By this system it is expected to make the war strength of the army 1,000,000 men.

The Navy.—Since the disasters of the war with the United States little has been done to restore the naval armaments of Spain. The battle-ship Pelayo, of 9,900 tons, has been reconstructed and armed with Canet guns, 4 9.4-inch breechloaders in barbette turrets, 9 5.5-inch quick-firers, and smaller ones. The cruisers Cataluña, Cardenal Cisneros, and Princesa de Asturias, of 7,000 tons, having 12-inch steel armor belts and engines of 13,000 horse-power, giving a speed of 20 knots, are not yet completed. The Carlos V is a Spanish-built cruiser of 9,235 tons, carrying 2 11-inch guns, 10 5.5-inch quick firers, 4 4.7-inch ones, and 2 12-pounders, and with engines of 15,000 horse-power able to steam 20 knots. There are 2 deck-protected cruisers of 4,800 tons, the Alfonso XIII and Lepanto, which can also make 20 knots. The old Numancia and Vitoria are being rearmed.

Commerce and Production.—Four-fifths of the area of Spain is productive land, and of this over a third is taken up with farm and garden

crops and a fifth with orchards, which is more than is given to grazing, while vineyards and olive-groves cover 5.3 per cent. of the cultivable area. There are 3,426,000 assessed proprietors, the transfer of the land from landlords to the cultivators having proceeded rapidly in recent times. The area under wheat in 1898 was 3,861,997 hectares, and the yield was 43,649,900 hectoliters, and 20,822,061 hectoliters of barley were obtained from 1,514,457 hectares, 6,809,652 hectoliters of rye from 713,525 hectares, 3,112,585 hectoliters of oats from 376,923 hectares, and 4,968,264 hectoliters of corn from 408,890 hectares. The vineyards had a total area of 1,997,046 hectares, and they yielded 28,089,004 hectoliters of wine. The olive-crop was 2,829,111 hectoliters, the trees occupying 1,092,238 hectares. Beans are raised and consumed in great quantities. Flax and hemp are important crops. Oranges, grapes, and filberts are exported largely. The production of coal in 1899 was 2,565,437 tons; of iron ore, 9,505,119 tons; of copper ore, 2,443,044 tons; of lead ore, 123,750 tons; of galena, 184,906 tons; of zinc ore, 119,770 tons; of quicksilver ore, 32,144 tons; of manganese ore, 104,974 tons; of salt, 508,108 tons.

The total value of imports in 1900 was 862,396,600 pesetas, and of exports 723,867,883 pesetas. The imports of cereals, sugars, wine, and alimentary substances of all kinds were 139,571,350 pesetas in value, and exports 254,735,684 pesetas; imports of minerals, glass, pottery, etc., were 96,557,403 pesetas, and exports 159,092,522 pesetas; imports of animals and animal products were 81,901,845 pesetas, and exports 64,846,347 pesetas; imports of wood and wood manufactures were 60,182,094 pesetas, and exports 53,378,864 pesetas; imports of metals and metal manufactures were 41,280,627 pesetas, and exports 88,898,633 pesetas; imports of cotton and cotton manufactures were 84,832,169 pesetas, and exports 33,946,034 pesetas; imports of machinery, vehicles, and vessels were 138,850,707 pesetas, and exports 755,709 pesetas; imports of drugs and chemicals were 83,640,680 pesetas, and exports 18,879,732 pesetas; imports of wool and woolen manufactures were 28,901,704 pesetas, and exports 9,688,657 pesetas; imports of silk and silk manufactures were 26,380,189 pesetas, and exports 5,178,319 pesetas; imports of vegetable fibers and manufactures other than cotton 24,364,023 pesetas, and exports 1,308,449 pesetas; imports of paper and paper manufactures 11,234,137 pesetas, and exports 8,743,656 pesetas; imports of miscellaneous articles 8,692,193 pesetas, and exports 3,470,399 pesetas; special imports 30,488,309 pesetas, including tobacco for 20,300,385 pesetas and railroad materials for 6,350,754 pesetas; imports of gold and silver 5,519,180 pesetas, and exports 20,944,878 pesetas. The value of wine exports fell off from 103,562,987 pesetas in 1899 to 82,202,920 pesetas, of which 76,362,220 pesetas represent common wines, 5,325,120 pesetas sherry, and 515,580 pesetas wines of full body, most of which last went to American countries, while of the sherry the value of 2,465,280 pesetas went to England and 1,948,680 pesetas to France, and two-thirds of the common wines went to France.

Navigation.—The number of vessels entered at Spanish ports during 1900 were 17,722, of 14,172,872 tons, of which 10,161, of 7,332,737 tons, were with cargoes; the number cleared was 16,910, of 14,086,361 tons, of which 14,780, of 12,602,916 tons, were with cargoes. Of the total number entered 9,517, of 6,860,444 tons, and of those cleared 8,383, of 6,608,266 tons, were Spanish vessels.

Dependencies.—Spain has come to an agreement with France by which the Rio de Oro coast

region in northwestern Africa is retained, about 100,000 miles in extent, but Adrar is conceded to France. In the disputed Rio Campo and Muni region opposite the island of Corisco France concedes to Spain a territory, populous and fertile, about 8,000 square miles in extent. The delimitation of the boundary was carried out in 1901 by a mixed commission. The islands of Fernando Po, Annabon, Corisco, and Elobey and San Juan have a combined area of 850 square miles, with about 30,000 inhabitants. The station of Iñi, near Cape Nun, has an area of 27 square miles, with 6,000 inhabitants.

Railroads, Posts, and Telegraphs.—There were 8,170 miles of railroads in operation on Jan. 1, 1900.

Politics and Legislation.—The session of the Cortes which began on Nov. 20, 1900, was adjourned indefinitely on Jan. 15, 1901. The time was spent mostly in retrospective discourses and the discussion of political incidents, personal questions, and the approaching royal nuptials. The budget of 1901 was not discussed, nor the proposed revision of the alcohol duty and of the pension system. The pensions, increasing year by year, amounted in the estimates for 1901 to 70,000,000 pesetas. The Budget Committee considered a project for the emission of 5-per-cent. redeemable bonds to realize 150,000,000 pesetas annually so as to extinguish in seven years the war loans obtained from the Bank of Spain. The convention with foreign bondholders for the conversion of 1,043,000,000 pesetas of 4-per-cent. debt was not voted by the Senate. The debate on the military reforms of Gen. Linares was barely begun. The annual contingents for the army and navy were fixed. A commercial treaty with Japan was approved; also the treaty with the United States for the cession, in consideration of the payment of \$100,000, of certain islands in the South Sea not included in the treaty of peace concluded on Dec. 12, 1898; and a treaty with France which provided for the delimitation of frontiers in equatorial Africa on the Numi river and in the Gold Coast. To arrive at the paltry results of the session the Azcarraga Government had to appeal to the aid of Señor Silvela at times or to the benevolence of Señor Sagasta, even to the support of the dissentient Liberals who follow Señor Gamazo or to the Duke of Tetuan's dissident Conservatives, when the majority threatened to revolt against the Ministers of the Interior, of Public Works, and of Education. A law authorizing the Minister of Marine to arm as coast-guards 4 old vessels discarded from the effective fleet was passed with the help of Opposition votes. The parties were split up into a great number of shifting groups and factions—the Conservatives into Silvelists, Catholics of the school of Azcarraga and Sanchez Toca, Ultramontanes of the Pidal shade, modern Conservatives of the Dato kind, dissident Conservatives of the following of the Duke of Tetuan and Navarro Reverter; the Liberals were Sagastinos, Constitutional Liberals, Democrats of the shade of Moret and Aguilara, Advanced Liberals, Young Liberals like Canalejas, Old Liberals of the shade of Montero Rios, Dissident Liberals led by Gamazo and Maura; the Carlists were divided into moderate and impatient sections; the Republicans were Progressists, Federalists, Socialists, Catalanists, Moderates, or Opportunists. Outside of the purely political parties were the elements seeking to shake off the control of politicians and the ruling classes, such as the revolutionary Socialists. Since no budget had been voted, that of 1901 by the decree of Dec. 31, 1900, became the provisional

budget for 1902. The convention with foreign bondholders fixed Dec. 31, 1900, as the date for the ratification of the arrangement for the conversion of the 4-per-cent. stamped external debt into 3½-per-cent. amortizable debt; failing ratification by the Cortes, both parties from that date would regain their liberty of action. The convention was opposed on the ground that it did not obtain enough and that it tied the hands of the Spanish Government for sixty years. The failure of the Senate to give its approval restored the right of the bondholders to 4 per cent. interest in gold exempt from taxation. Military reforms, including universal service, reform of the civil service, and a revision of the concordat, were, in addition to an overhauling of the pension system, the tasks which the Conservative ministry promised to fulfil.

In February anticlerical demonstrations took place, evoked by the drama *Electra*, by Galdos, and by a lawsuit over the enforced detention of a wealthy heiress in a convent. The demonstrations were directed also against the marriage of the Princess of the Asturias, the heiress to the throne, to Prince Carlos of Bourbon-Canerta, son of the former chief of staff in the army of Don Carlos. Blood flowed in several cities. In Granada gendarmes shot into a mob from a cloister and killed several persons. In Madrid riotous demonstrations by students and others took place in front of Jesuit establishments when the parents of the Señorita Ubao applied for the custody of their daughter, who had entered a convent before she was twenty-five years old. The disturbance spread to Saragossa, Valencia, Santander, Alicante, Barcelona, and Malaga. On Feb. 14 a state of siege was proclaimed in Madrid. The Jesuits in the capital and in other cities fled to rural convents when their buildings were smashed in. The trades association of Madrid appealed to the Government to forbid industrial labor in cloisters and thus put an end to the disastrous competition with free labor of the religious orders, which pay no taxes. The marriage of the Princess of the Asturias was celebrated on Feb. 14.

At a Cabinet council on Feb. 25 the ministers decided to resign so as to enable a new Cabinet to frame the budget of 1902, and on the day following Gen. Azcarraga presented their resignations, which the Queen-Regent accepted. A coalition Cabinet of all the parties under Gen. Azcarraga could not be formed because Señor Silvela, the Conservative leader, refused to give it his support. Señor Sagasta undertook to form a Liberal Cabinet, which was constituted on March 6 as follows: Premier, P. M. Sagasta; Minister of the Interior, Señor Moret; Minister of War, Gen. Weyler; Minister of Foreign Affairs, the Duke of Almodovar; Minister of Finance, Angel Urzaiz; Minister of Marine, the Duke of Vergara; Minister of Justice, the Marquis Teverga; Minister of Public Instruction, Count Romanones; Minister of Public Works, Miguel Villanueva. Strike riots in Catalonia broke out a few days after the Cabinet was formed. Some of the workmen having struck work as a protest against the introduction of new textile machinery, the masters closed their factories. In the Ter valley textile workers were wounded by the gendarmes. In Madrid occurred disorderly demonstrations against the octroi duties. Gen. Weyler, as Governor of Madrid, had administered martial law with vigor while the state of siege lasted, but the new ministry, on taking office, restored the ordinary law. The accession of a Liberal Cabinet necessitated the dissolution of the Cortes, which was decreed on March 18. Anticlerical demon-

strations were renewed. The expulsion of the religious orders was demanded. A revision of the concordat requiring the Church to share in the financial sacrifices necessary to relieve the treasury of its embarrassments was not opposed by the Vatican. All that the Church contributed to the treasury was the fixed annual sum of 3,000,000 pesetas, while the hierarchy received from the treasury 2,500,000 pesetas in salaries and the total expenditure for ecclesiastical purposes was 41,000,000 pesetas. Only a small part of the income of the clergy comes from the state. The number of the higher clergy is 1,313. There were 45,328 priests and monks and 28,549 nuns in 1897. The Jesuits, numbering 1,500, exercise a powerful influence through their schools. The teachers of the public schools, 21,546 in number, receive wretched salaries and lead a slavish existence under the domination of officials and clergy. Early in May strike riots occurred in Barcelona of so serious a character that martial law was proclaimed. To satisfy the Catalan demand for home rule the Government decided to concede a certain measure of decentralization in all the provinces. A court of arbitration for labor disputes was approved by the Cabinet. The general election of Deputies took place on May 19. Election fights and demonstrations against octrois occurred in various parts of the country. The Liberals won 238 seats; Conservatives, 81; Dissident Conservatives, 12; Dissident Liberals, 13; Romerists, 14; Republicans, 16; Carlists, 6; National Union, 10; Catalanists, 4; Socialists, 1; Independents, 6. The Ministerialists numbered 238; the Opposition, 163.

The new Cortes were opened by the Queen on June 11. In the speech from the throne it was stated that the time had arrived for beginning to reform the monetary circulation, both paper and coin, the derangement of which was considered to be the cause of the unfavorable state of foreign exchanges. The Government proposed to cease issues of paper and the coinage of coin silver and to repay the advances of the Bank of Spain without resorting for the present to large credit operations. The preceding Government had resolved to cease the purchase and coinage of silver. The reduction of expenses and the readjustment of taxes were the means chosen for equalizing the budget. The Government possessed the means of fulfilling its engagements, and no one had a right to doubt the nation's credit. A public-works loan would be utilized for territorial defense and the reorganization of the naval forces. The congregations not authorized by the concordat would have to submit to the ordinary law, and no objection on the part of the Vatican was anticipated. A bill was to be brought forward dealing with the religious orders, declaring which were legal and which could not be tolerated. A thorough reform of the social organization was necessary, and this must be accompanied by the development of the wealth of the country and the consolidation of its finances. To this end various bills were to be presented, of which the principal ones dealt with electoral and municipal reforms. Municipalities must no longer take part in elections or engage in political intrigues, but confine their work to purely administrative matters. It was proposed, moreover, to make them as far as possible autonomous and free from interference from the Central Government in Madrid. The 4-per-cent. unsealed external bonds, the redeemable 4-per-cent. preference bonds not presented for redemption, and the Cuban and Philippine mortgage bonds were to be converted into internal 4-per-cent. stock. In the budget of Señor Urzaiz a surplus of 30,000,000 pesetas was calcu-

lated for 1902. His main financial measures were not presented till the winter session. Spain in twenty years coined 1,026,000,000 pesetas in silver, obtaining a profit of 141,000,000 pesetas. The Bank of Spain for several years has derived half its profits from excessive note issues necessary to meet the requirements of the treasury. As a remedy for the fluctuations of exchange the Minister of Finance introduced a bill prohibiting the coinage of silver, except recoinage of old coins, and authorizing the Government to reconvert a part of the existing coinage into ingots for sale, and gradually to issue treasury bonds to repay the advances obtained from the Bank of Spain during the Cuban and Philippine wars. The enforced conversion of the unsealed external debt into internal bonds would leave outstanding only the part held by foreigners, amounting to 1,026,000,000 pesetas. Señor Moret left the Cabinet on being elected president of the Chamber, and the Minister of Public Works, on July 15, took the portfolio of the Interior *ad interim*. The session was adjourned on July 22. Serious anticlerical riots occurred at Saragossa, and sporadic anticlerical and labor disturbances at various other places during the parliamentary vacation. The Carlists made preparations for a rising in the Basque provinces, but the leaders fled when the Government got wind of it. Anarchistic agitations were checked by closing labor societies and arresting the leaders. The Cortes met again in October. Gen. Weyler presented an army bill reducing by 40,000 the number of recruits for 1902. Companies paying interest or dividends in gold were required by a Government decree to pay their taxes also at gold rates. A decree of Sept. 19 against illegal religious associations prevented an invasion of the religious orders expelled from France. The budget when finally presented on Oct. 28 showed an increase of 25,000,000 pesetas in expenditure. Octroi duties were decreased 10 per cent., with a view of abolishing them entirely in ten years. An increase of 16 per cent. in the land tax was proposed. The tax on the revenues of societies was fixed at 12 per cent., and dividends on companies' shares were taxed 8 per cent. Banks of issue were required to pay 15 per cent. on their revenues and 5 per cent. on the dividends on their shares. Civil pensions for officials entering the public service since 1900 were suppressed. The Government assumed the care of primary education, and the surcharge on the land tax which had been given to municipalities toward its support was transferred to the treasury. A bill to regulate strikes declares strikes to be allowable if four days' notice is given to the authorities. In public works and concessions contracts with laborers must be signed in which the hours of labor and the rate of wages are stipulated, and if disputes arise they must be referred to the authorities and to arbitrators. Violence or intimidation are punishable, and strikes which stop the work of an entire town or tend to produce a lack of the necessities of life or are dangerous to life are illegal. The Government in November carried a bill for debt conversion and one prohibiting the coinage of silver. The measures applied to illegal religious associations were resisted by the Catholics, who considered that they ought to be exempted from the law of associations. They opposed also the new program of secular education. Customs duties on iron ships, carriages, cereals, and wines were made payable in gold. The Minister of Finance offered to resign when the Chamber voted 16,000,000 pesetas to cover the rate of exchange on the interest on the foreign debt, when he considered 9,000,000 pesetas suffi-

cient, anticipating that the payment of the coupons in gold would cause a fall in the rate of exchange. The interest amounts to 40,000,000 pesetas in gold annually, and the premium on gold at the beginning of December was 42.85 per cent. Premier Sagasta persuaded Señor Urzaiz to withdraw his resignation.

SWEDEN AND NORWAY, two kingdoms in northern Europe united since 1814, having the same sovereign, but in constitution, government, and laws independent of each other. The throne in each monarchically descends to the heirs of the house of Bernadotte. In case of the extinction of the dynasty the Diets of the two kingdoms will assemble separately to elect a sovereign, and if they can not agree upon one person an equal number of Deputies from each will meet together, and the choice of the majority shall be King. Affairs common to both kingdoms are decided by a Council of State composed of Swedes and Norwegians, and in case of a minor succeeding to the throne this Council of State will exercise the sovereign power pending the appointment of a regent or regents by the two Diets or by the joint vote of delegations from each. The reigning King is Oscar II, born Jan. 21, 1829, grandson of Marshal Bernadotte, Prince of Ponte Corvo, the founder of the dynasty, who was chosen by the Swedish Diet in 1810 to be the heir and successor of Carl XIII, the last sovereign of the house of Holstein-Gottorp. The heir apparent is Gustaf, Duke of Wermland, born June 16, 1858.

Sweden.—The Diet of Sweden, called the Riksdag, consists of a First Chamber composed of 150 members, elected for nine years by provincial and municipal assemblies, and a Second Chamber containing 230 members, elected for three years, 80 in towns by direct suffrage and 150 in rural districts, either indirectly or directly as the majority decide, by natives of Sweden who own or cultivate land of a certain minimum value or have 800 kronor of income. The Minister of State at the beginning of 1901 was Admiral Baron Fredrik Wilhelm von Otter, the Minister of Foreign Affairs was Carl Herman Theodor Alfred Lagerheim, and the Councilors of State were: Justice, Per Samuel Ludvig Annerstedt; War, Jesper Ingewald Crusebiorn; Marine, Gerhard Dyrssen; Interior, Julius Edvard von Krusenstjerna; Finance, Count Hans Hansson Wachtmeister; Education and Ecclesiastical Affairs, Nils Ludvig Alfred Claeson; Agriculture, Albrecht Theodor Odelberg; without departments, Sven Herman Wikblad, Karl Sigfrid Husberg, and Dr. Hammarskjöld.

Area and Population.—The area of Sweden is 172,876 square miles. The population on Jan. 1, 1900, was computed to be 5,097,402, consisting of 2,486,447 males and 2,610,955 females.

The Army and Navy.—The Swedish army, composed of enlisted troops paid by the Government and cantoned troops, who live rent free on the lands of the proprietors and receive from them a small amount of pay, had at the beginning of 1901 a strength of 1,946 officers, 1,782 non-commissioned officers, 1,655 musicians, 683 civil employees, and 33,057 rank and file, making a total number of 39,123 in active service, with 6,876 horses and 240 guns. The reserve consisted of 725 officers and 517 non-commissioned officers. The enlisted troops, who serve two or three years, include the guards, the artillery, the engineers, the train, sharpshooters, and some infantry and cavalry regiments. The cantoned troops may remain in the service as long as they are capable of bearing arms, the infantry receiving two hundred days and the cavalry four hundred days of train-

ing in the first two years, after which they exercise about three weeks every year. All Swedes not in the regular army are liable to conscription, and if drawn for the service are trained for ninety days and are bound to serve in case of mobilization with the regular troops during a period of twelve years and for eight years more in separate bodies. The annual contingent is about 29,000 men. The 12 classes subject to mobilization in the first line number about 250,000 men, and the 8 classes of the Landsturm about 200,000 men.

The Swedish navy in the beginning of 1901 comprised 7 first-class armored monitors, besides 3 unfinished ones, 4 of the second class, 9 smaller ones, 3 corvettes, 5 torpedo-cruisers, 13 gunboats, 13 first-class torpedo-boats, besides 2 not completed, and 9 second-class torpedo-boats, exclusive of 2 unfinished ones. The first-class monitor *Svea*, launched in 1886, has 11.8-inch armor and displaces 3,100 tons; the *Göta*, launched in 1891, has 11.7-inch armor and displaces 3,200 tons; the *Thule*, launched in 1893, with the same armor, displaces 3,300 tons; the *Oden*, launched in 1897, with 10-inch armor, displaces 3,500 tons; the *Niord* and *Thor*, launched in 1899, have 9½-inch armor but as great a displacement, which is the same for the *Dristigheten*, which has 8-inch armor; and the 3 new ones, with 7-inch armor, will have a displacement of 3,650 tons. The speed of the later turret gunboats is 17 knots, nearly a knot better than that of some of the earlier ones. With the improved armor their protection is better. Instead of 10-inch guns in their turrets, the latest have 8.3-inch quick-firers, with 5.9-inch quick-firers in their secondary batteries, while the earlier ships of the series have been provided with 4.7-inch quick-firers.

Legislation.—The Riksdag has approved a scheme of army reorganization introducing universal military service. The Government proposed a term of compulsory service of twelve months, but the Second Chamber would only agree to eight months. King Oscar in sanctioning the law on June 25 declared that he did not consider that it settled completely the question of defense. The estimates for national defense are increased 22,500,000 kronor owing to the new law which brings the military estimates up to 45,000,000 kronor and the naval estimates up to 14,000,000 kronor. The King, who while ill was represented by the Crown Prince, took charge again of the Government on Jan. 21, 1901. A bill for the insurance of workmen against accidents was introduced by the ministry. On Dec. 5 Dr. Annerstedt resigned the post of Minister of Justice; the King appointed Dr. Hammarskjöld as his successor and Dr. Westring to succeed the latter as minister without portfolio.

Finances.—In the budget for 1902 the total receipts of the treasury were estimated at 156,143,000 kronor, including 24,165,000 kronor brought over from the preceding year. The ordinary receipts of the year were reckoned at 21,578,000 kronor, of which 480,000 kronor come from the land tax, 1,500,000 kronor from tonnage dues, 2,100,000 kronor from leased domains, 750,000 kronor from the personal tax, 7,000,000 kronor net from railroads, 1,610,000 kronor from telegraphs, 7,000,000 kronor from forests, and 1,138,000 kronor from various sources. The extraordinary receipts amount to 108,400,000 kronor, of which 49,000,000 kronor come from customs, 12,400,000 kronor from the post-office, 6,500,000 kronor from stamps, 19,500,000 kronor from the tax on spirits, 10,500,000 kronor from the tax on sugar, 9,800,000 kronor from the income tax, and 700,000 kronor from various sources. The share of

the Government in the profits of the national bank for 1900, amounting to 2,000,000 kronor, is also counted in the receipts for 1902. The total expenditures were estimated at 156,143,000 kronor, of which 1,321,000 kronor are ordinary and 100,000 extraordinary expenses of the royal household, 3,852,420 kronor ordinary and 120,750 kronor extraordinary expenses of the Ministry of Justice, 652,050 kronor ordinary and 19,650 kronor extraordinary expenses of the Ministry of Foreign Affairs, 33,775,094 kronor ordinary and 12,546,806 kronor extraordinary expenses of the army, 10,461,982 kronor ordinary and 10,983,043 kronor extraordinary expenses of the navy, 19,319,100 kronor ordinary and 7,396,000 kronor extraordinary expenses of the Ministry of the Interior, 7,299,821 kronor ordinary and 985,179 kronor extraordinary expenses of the Ministry of Finance, 4,680,915 kronor ordinary and 1,558,725 kronor extraordinary expenses of the Ministry of Agriculture, 3,649,115 kronor ordinary and 1,540,000 kronor extraordinary expenses for pensions, 6,152,000 kronor extraordinary expenditure on railroads, 11,888,000 kronor expenditure for interest and amortization of debt and for the Diet, 1,400,000 kronor a reserve for the insurance of working men against sickness, and 250,000 kronor a reserve for the insurance of working men against accidents. The ordinary expenses of the Ministry of the Interior are 2,815,467 kronor for administration, 12,020,000 kronor for the post-office, 1,610,000 kronor for telegraphs, 1,717,224 kronor for public health, and 1,156,409 kronor for other purposes. The ordinary expenditures of the Ministry of Finance were 2,982,000 kronor for customs, 450,000 kronor for excise, and 3,867,821 kronor for other purposes. The ordinary expenses of the Ministry of Agriculture were 2,200,000 kronor for forests and 2,380,915 kronor for other purposes.

The public debt outstanding on Jan. 1, 1901, amounted to 337,898,733 kronor, consisting of 48,799,500 kronor of the internal loan at 3½ per cent. of 1887 and 289,099,233 kronor of foreign debt, of which 97,029,900 kronor borrowed in 1880, 57,886,667 kronor borrowed in 1886, 32,371,555 kronor borrowed in 1890, and 36,000,000 kronor borrowed in 1899 paid 3½ per cent., 25,111,111 kronor borrowed in 1888 paid 3 per cent., and 22,700,000 kronor raised in 1900 paid 4 per cent.

Commerce and Production.—The cereal crops of Sweden in 1899 had a total value of 252,300,000 kronor. The yield of rye was 7,554,100 hectoliters; of wheat, 1,561,200 hectoliters; of barley, 4,119,900 hectoliters; of oats, 18,923,100 hectoliters; of pulse, 678,500 hectoliters; of potatoes, 11,955,400 hectoliters. The number of horses in Sweden on Jan. 1, 1899, was 522,858; of cattle, 2,581,667; of sheep, 1,291,482; of pigs, 816,217. The number of farms in 1898 was 334,360, of which 74,293 were under 2 hectares, 215,514 between 2 and 20, 32,681 from 20 to 100, and 3,222 over 100 hectares. The quantity of iron ore mined in 1899 was 2,434,606 tons. The production of pig iron was 489,231 tons; of bar iron, 335,706 tons. The exports of iron ore in 1898 were 1,439,860 tons; of pig iron, 91,719 tons; of bar iron, 162,862 tons. The quantity of silver-lead ore mined in 1899 was 5,730 tons; of copper ore, 22,334 tons; of zinc ore, 65,159 tons; of manganese ore, 2,622 tons. The production of gold was 106 kilograms; of silver, 2,290 kilograms; of lead, 1,606,187 kilograms; of copper, 178,855 kilograms. The quantity of coal raised was 239,344 tons. The number of persons employed in mining of all kinds in 1899 was 29,814.

The total value of imports in 1899 was 504,788,000 kronor, and of exports 358,185,000 kronor.

The imports of coal were valued at 64,679,000 kronor; rye and wheat, 37,212,000 kronor; machinery, 28,297,000 kronor; iron manufactures, 21,733,000 kronor; coffee, 20,575,000 kronor; woolen goods, 16,906,000 kronor; hides and skins, 15,299,000 kronor; woolen yarn, 12,459,000 kronor; petroleum, 12,339,000 kronor; wool, 10,746,000 kronor; cotton, 9,176,000 kronor; fish, 9,176,000 kronor; fertilizers, 8,856,000 kronor; vessels, 8,330,000 kronor; vegetable oils, 7,402,000 kronor; cotton goods, 7,199,000 kronor; pork products, 6,549,000 kronor; tobacco, 5,978,000 kronor; silk goods, 5,720,000 kronor; bran, 5,058,000 kronor; oil-cake, 4,813,000 kronor; wood manufactures, 4,751,000 kronor; iron, 4,751,000 kronor; paper, 4,746,000 kronor; wine, 4,696,000 kronor; cotton yarn, 4,402,000 kronor. The exports of timber were valued at 140,118,000 kronor; iron, 54,040,000 kronor; butter, 39,450,000 kronor; wood-pulp, 20,726,000 kronor; machinery, 9,947,000 kronor; paper, 9,744,000 kronor; granite, 9,688,000 kronor; joinery, 9,270,000 kronor; iron manufactures, 7,813,000 kronor; oats, 3,995,000 kronor.

The foreign commerce was distributed among different countries in 1899 as shown in the following table, giving the values in kronor of the imports from and exports to each country:

COUNTRIES.	Imports.	Exports.
Great Britain.....	154,563,000	157,198,000
Germany.....	184,113,000	54,861,000
Denmark.....	60,681,000	43,298,000
Russia and Finland.....	28,502,000	15,761,000
Netherlands.....	10,391,000	25,667,000
France.....	8,992,000	29,066,000
Belgium.....	16,804,000	13,788,000
Norway.....	20,450,090	6,451,000
United States.....	10,467,000	.....
Africa.....	86,000	5,787,000
Spain.....	1,768,000	2,851,000
South America.....	2,999,000	413,000
Italy.....	2,068,000	306,000
Portugal.....	1,530,000	852,000
Australia.....	.....	826,000
Other countries.....	1,377,000	965,000
Total.....	504,788,000	358,185,000

Navigation.—The number of vessels entered at Swedish ports during 1899 was 34,208, of 6,186,000 tons; of which 17,477, of 3,111,000 tons, were Swedish, 2,200, of 908,000 tons, were Norwegian, and 14,531, of 4,167,000 tons, were foreign. The total number cleared was 34,292, of 8,199,000 tons, of which 17,567, of 3,160,000 tons, were Swedish, 2,270, of 912,000 tons, were Norwegian, and 14,465, of 4,127,000 tons, were foreign. Of the total number entered 14,706, of 3,866,000 tons, and of those cleared 22,006, of 5,780,000 tons, were with cargoes. The number of steamers among the vessels entered was 15,924, of 6,900,000 tons, of which 6,050, of 3,253,000 tons, were with cargoes; the number of steamers cleared was 15,916, of 6,898,000 tons, of which 8,047, of 4,601,000 tons, carried cargoes. The merchant navy on Jan. 1, 1900, consisted of 2,040 sailing vessels, of 289,248 tons, and 872 steamers, of 298,421 tons.

Railroads, Posts, and Telegraphs.—The railroads of Sweden had on Jan. 1, 1901, a total length of 6,865 miles, of which 4,535 miles belonged to the Government.

The post-office in 1899 carried 70,914,000 internal, 15,915,000 international, and 412,000 transit letters; 8,970,000 internal, 1,604,000 international, and 55,000 transit postal cards; 133,378,000 internal, 8,188,000 international, and 177,000 transit newspapers and circulars; and 3,794,000 internal registered letters and postal orders remitting 842,114,000 francs and 388 in the international service, remitting 68,773,000 francs. The

postal revenue was 15,875,213 francs, and expenses 14,677,349 francs. The Government telegraphs in 1899 had a length of 8,808 miles, with 26,342 miles of wire; the railroad telegraphs had a length of 5,763 miles, with 19,179 miles of wire. The number of paid internal despatches was 1,444,019; of international despatches, 918,403; in transit, 366,643; service despatches, 86,541.

Norway.—The Norwegian Diet is called the Storting, consisting of 114 members elected for three years, 38 by the towns and 76 by the rural districts. The Storting elects one-fourth of its members to form the Lagthing, which has a veto power over the acts of the Odelsting, composed of the rest of the members. The Minister of State presiding over the Council of State at the beginning of 1901 was Johannes Wilhelm Christian Steen, and the Councilors of State were: Ecclesiastical Affairs and Public Instruction, Vilhelm Andreas Wexelsen; Justice, Ole Anton Qvam; Interior, Minister of State J. W. C. Steen; Agriculture, Wollert Konow; Public Works, Jörgen Gundersen Lövland; Finance and Customs, Sören Tobias Arstad; Defense, Lieut.-Col. Hans Georg Jacob Stang; Public Accounts, W. Konow; delegation at Stockholm, Minister of State Otto Albert Blehr and Councilors of State Elias Sunde and Commodore Christian Sparre.

Area and Population.—The area of Norway is 124,445 square miles. The provisional reports of the census of Dec. 3, 1900, made the total population, 2,231,395. Christiania, the capital, had 225,686 inhabitants; Bergen, 72,179. School attendance for seven years in the country and seven and one-half years in towns is compulsory. There were 5,966 public primary schools with 255,433 pupils in the country districts in 1896, and in the towns 2,165 classes with 69,466 pupils. The cost was 8,302,943 kroner, of which the state supplied 2,462,541 kroner and towns, counties, and parishes the rest. The University of Christiania had 1,350 students in 1899. Of 6,699 emigrants in 1899 no fewer than 6,466 went to the United States, and of the rest 51 went to British America.

Finances.—The budget estimate of revenue for the year ending March 31, 1901, was 99,641,070 kroner, of which sum the income-tax receipts give 5,100,000 kroner, customs 35,000,000 kroner, spirit excise duties 4,300,000 kroner, malt excise duties 4,000,000 kroner, succession duty 560,000 kroner, stamps 1,070,000 kroner, judicial fees 900,000 kroner, mines 445,920 kroner, the post-office 5,100,000 kroner, telegraphs 2,350,000 kroner, state property 3,283,741 kroner, railroads 12,224,400 kroner, various sources 7,186,696 kroner, loans for national defense and railroad construction 14,357,113 kroner, cash surplus from preceding year 3,763,200 kroner. The expenditure for 1901 balances the receipts in the budget, and of the total sum the civil list absorbs 542,147 kroner, the Storting 881,500 kroner; the ministries take 1,627,938 kroner, churches and schools 9,117,571 kroner; 7,039,562 kroner are the expenses of justice, 4,769,251 kroner of the Interior department; posts and telegraphs cost 12,849,141 kroner to operate and maintain, the Government railroads 22,036,470 kroner, roads, canals, and harbors 4,677,717 kroner, and mines 597,130 kroner; the administration of finance and customs costs 4,084,958 kroner; for amortization of the debt 2,380,376 kroner are required, for interest 6,436,422 kroner; the expenses of the army are 14,471,160 kroner, and of the navy 4,485,000 kroner; the department of Foreign Affairs requires 782,020 kroner, and 2,862,707 kroner are left for miscellaneous expenses.

The amount of the public debt on June 30,

1899, was 198,549,146 kroner, having been increased 20,880,000 kroner in twelve months. The sinking-fund for the year was 2,502,115 kroner and the interest charge 5,992,888 kroner.

The Army and Navy.—The Norwegian military forces are raised by conscription, but recruits are required only to train forty-eight days for infantry and mountain and fortress artillery, sixty days for engineers, eighty days for field-artillery, and ninety days for cavalry, and for two or three years to exercise twenty-four days annually. The troops of the line number about 900 officers and 30,000 men, but not above 18,000 may be summoned to arms at one time, even in case of war, except with the consent of the Storting. The army for war purposes is organized in 5 brigades of infantry, each brigade composed of 4 corps, and each corps of 1 battalion of the active troops, 1 battalion of Landwehr, and 1 battalion of Landsturm; 3 corps of light cavalry from each ban, armed and trained as mounted rifles, 2 corps having 3 and 1 having 2 squadrons; 3 corps of field-artillery, each corps containing 1 battalion from each ban, the battalion consisting of 3 batteries of 6 pieces; 2 batteries of mountain artillery; 5 fortress battalions of seacoast artillery, with 5 signal companies and 5 torpedo companies; and 1 corps of engineers, consisting of 1 battalion each from the line, the Landwehr, and the Landsturm, the battalion consisting of 2 companies of sappers, 1 company of pontoon troops, 1 company of telegraphists, and 1 company of equipage; 1 corps of train, composed of 1 battalion of 3 companies from each ban; and 1 corps of sanitary troops, composed of 3 companies from each ban. The total effective strength is estimated at 1,700 officers and 80,000 men.

The Norwegian fleet has 4 armor-clad coast-defense turret-ships of 3,500 tons, 4 monitors of older construction, 3 first-class and 8 second-class gunboats of different dates, 1 torpedo despatch boat, and 8 first-class and 17 second-class torpedo boats.

Legislation.—In addition to the ordinary army estimates, amounting to 14,000,000 kroner, Col. Stang obtained appropriations for extraordinary purposes, including 1,180,000 kroner for defenses of the land approaches to Christiania, 1,400,000 kroner for the purchase of quick-firing guns, 800,000 kroner to continue the construction of forts near Christiansand, and 120,000 kroner to complete laying mines near Bergen.

Commerce and Production.—The chief agricultural products of Norway are oats, barley, and potatoes. The forests cover 26,320 square miles, three-fourths of this area consisting of fir or spruce. The Government has 3,870 square miles of forests managed by state foresters. The value of rough lumber exported in 1899 was 39,571,700 kroner; of manufactured lumber, 19,435,800 kroner. The total value of mineral products in 1898 was 3,793,800 kroner; of furnace products, 1,299,000 kroner; of manufactured iron and steel, 76,000 kroner; of silver, 345,000 kroner; of copper ore, 1,575,800 kroner; of copper, 884,000 kroner. There were 89,292 persons in 1898 engaged in the cod fisheries, 21,203 in herring-fishing in the summer, and 2,659 in fishing for mackerel, while all the mining establishments employed only 2,359. The value of the cod catch in 1898 was 8,934,234 kroner; of herring, 5,829,030 kroner; of mackerel, 386,223 kroner; of salmon and sea trout, 839,310 kroner; of lobsters, 479,920 kroner; of oysters, 7,864 kroner; total, 21,714,253 kroner, not including mackerel fisheries in the North Sea, bank fisheries, and whale, walrus, seal, and shark fisheries, producing 3,600,000 kroner more.

The total value of imports in 1900 was 310,653,000 kroner, and of exports 172,946,000 kroner. Imports of alimentary substances were 106,500,000 kroner, and exports 58,800,000 kroner in value; imports of raw materials were 79,400,000 kroner, including 35,200,000 kroner for coal, and exports were 55,500,000 kroner; imports of manufactured articles were 64,900,000 kroner, and exports 41,600,000 kroner; imports of drugs, dyes, and colors were 2,100,000 kroner, and exports 100,000 kroner; imports of oils were 18,400,000 kroner, and exports 5,800,000 kroner; imports of miscellaneous articles were 39,400,000 kroner, and exports 11,100,000 kroner. Among alimentary articles the imports of cereals were 52,800,000 kroner, and exports 500,000 kroner; imports of fermented liquors were 7,500,000 kroner, and exports 300,000 kroner; imports of colonial products 24,300,000 kroner, and exports 300,000 kroner; imports of animals and animal products 16,300,000 kroner, and exports 57,600,000 kroner. The imports of crude metals were 13,600,000 kroner, and exports 2,500,000 kroner; imports of hides and skins 8,800,000 kroner, and exports 5,700,000 kroner; imports of textile materials 7,100,000 kroner, and exports 300,000 kroner; imports of timber 7,300,000 kroner, and exports 42,700,000 kroner; imports of minerals 7,400,000 kroner, and exports 4,300,000 kroner. The value of imports of manufactured goods were 23,000,000 kroner for metal manufactures, against 2,100,000 kroner for exports; 33,500,000 kroner for textile goods, against 900,000 kroner for exports; 2,900,000 kroner for paper and paper manufactures, against 9,800,000 kroner exported; 1,000,000 kroner for leather manufactures, against 200,000 kroner for exports; 4,500,000 kroner for wood manufactures, against 28,600,000 kroner exported.

The values in kroner of imports from and exports to different countries in 1900 were as follows:

COUNTRIES.	Imports.	Exports.
Great Britain.....	93,330,000	75,512,000
Germany.....	84,672,000	22,595,000
Sweden.....	27,164,000	14,766,000
Russia and Finland.....	27,196,000	5,404,000
Denmark.....	16,563,000	7,329,000
Netherlands.....	14,991,000	10,786,000
Belgium.....	12,885,000	7,710,000
United States.....	16,583,000	1,973,000
Spain.....	3,247,000	11,248,000
France.....	5,305,000	8,306,000
Italy.....	1,507,000	2,216,000
Portugal.....	1,042,000	595,000
Other countries.....	6,268,000	6,606,000
Total.....	310,653,000	172,046,000

Navigation.—The number of vessels entered at Norwegian ports during 1900 was 13,465, of 3,149,711 tons, of which 7,029, of 2,127,820 tons, were with cargoes and 6,436, of 1,021,891 tons, were in ballast. The total number cleared was 13,586, of 3,231,177 tons, of which 12,166, of 2,615,967 tons, were with cargoes and 1,420, of 615,210 tons, were in ballast. Of the total number entered 7,019, of 2,068,240 tons, were Norwegian, 4,396, of 1,334,843 tons, having cargoes, while of 6,446 foreign vessels, of 1,081,471 tons, 2,633, of 792,977 tons, brought cargoes. Of the vessels cleared 7,113, of 2,150,700 tons, were Norwegian, and of these 6,400, of 1,839,391 tons, took cargoes, while of 6,473 foreign vessels cleared, of 1,080,477 tons, 5,766, of 776,576 tons, carried cargoes.

The merchant marine of Norway, the greatest in proportion to population, numbered 5,642 sailing vessels, of 1,002,675 registered tons, and 1,171 steamers, of 505,443 registered tons, on Jan. 1,

1901, compared with 5,698 sailing vessels, of 1,052,687 tons, and 1,128 steamers, of 482,247 tons, on Jan. 1, 1900.

Railroads, Posts, and Telegraphs.—The length of the state railroads in 1900 was 1,235 miles, and there were 103 miles of private railroads. The receipts of the Government railroads for 1899 were 11,768,282 kroner, and expenses 8,206,262 kroner, while the revenue of the companies was 2,711,833 kroner and expenses 1,603,781 kroner. The Government railroads carried 8,563,214 passengers and 1,759,279 metric tons of freight; companies' lines, 1,068,032 passengers and 908,072 tons of freight.

The postal traffic in 1900 was 38,519,800 internal and 12,106,400 foreign letters and postal cards, of which 2,676,500 internal and 75,000 foreign letters were registered, containing the values of 385,400,000 and 22,100,000 kroner; and 58,702,900 internal and 5,346,800 foreign newspapers, books, and circulars. The postal receipts were 5,060,791 kroner; expenses, 4,859,188 kroner.

The telegraphs of the Government had in 1900 a total length of 7,500 miles, with 11,740 miles of wire; those of railroad companies had a length of 1,230 miles, with 2,390 miles of wire. The number of internal messages was 1,430,804; of international messages, 837,111; of service messages, 22,692; receipts, 3,173,320 kroner; working expenses, 2,374,169 kroner.

SWITZERLAND, a federal republic in central Europe. The legislative power is vested in the Federal Assembly, composed of a National Council of 147 members, elected for three years by direct adult male suffrage, and a State Council of 44 members, elected in the cantons, in some of them by the legislative bodies, in others by popular vote. The executive power is vested in the Federal Council, whose members are elected for three years by the Federal Assembly, and from among the Federal Council the President of the Swiss Confederation and the Vice-President, who by custom is chosen President for the next succeeding term, are chosen annually. The Federal Council in the beginning of 1901 was composed as follows: President of the Confederation and Chief of the Department of Justice and Police, Dr. Ernest Brenner, of Basel; Vice-President and Chief of the Department of Posts and Railroads, Dr. Joseph Zemp, of Lucerne; Chief of the Political Department, W. Hauser, of Zurich; Chief of the Military Department, E. Müller, of Bern; Chief of the Interior Department, M. E. Ruchet, of Vaud; Chief of the Department of Commerce, Industry, and Agriculture, Dr. A. Deucher, of Thurgau; Chief of the Department of Finance and Customs, R. Comtesse, of Neuchâtel. On Dec. 12, 1901, Dr. Zemp was chosen by the Federal Assembly to serve as President of the Swiss Confederation for 1902 and Dr. Deucher was elected Vice-President.

Area and Population.—The Swiss Confederation is composed of 22 cantons; but as 3 of these are politically divided there are 25 republics in the league, the half-cantons sending only 1 member instead of 2 to the State Council. The area in square miles of each canton or half-canton and its population, according to the census taken on Dec. 1, 1900, are given in the table at the head of the next page.

The population of the principal towns was: Zurich, 150,239; Basel, 112,842; Geneva, 104,044; Bern, 63,994; Lausanne, 55,973; Vevey, 32,982; Lucerne, 29,145.

Finances.—The revenue of the Federal Government in 1900 amounted to 101,033,716 francs; expenditure, 102,757,837 francs. The budget esti-

CANTONS.	Area.	Population.
Aargau.....	542	206,460
Appenzell-ausser-Rhoden.....	101	55,284
Appenzell-inner-Rhoden.....	61	13,480
Basel-Stadt.....	14	112,246
Basel-Land.....	163	68,451
Bern.....	2,657	586,918
Freiburg.....	644	137,719
Geneva.....	108	131,674
Glarus.....	267	32,397
Graubünden.....	2,773	104,510
Lucerne.....	579	146,474
Neuchâtel.....	312	125,804
Saint Gallen.....	779	230,066
Schaffhausen.....	114	41,523
Schwyz.....	351	55,497
Solothurn.....	302	100,838
Thurgau.....	381	113,110
Ticino.....	1,088	142,719
Unterwalden:		
Nidwald.....	112	13,088
Obwald.....	183	15,280
Uri.....	415	19,701
Valais.....	2,027	114,980
Vaud.....	1,244	279,152
Zug.....	92	25,045
Zurich.....	666	430,135
Total.....	15,976	3,312,551

mate of revenue for 1901 was 104,860,000 francs, of which 865,275 francs come from real property, 2,158,390 francs from invested capital, 57,100 francs from the general administration, 41,500 francs from the Political Department, 55,700 francs from the Department of the Interior, 519,400 francs from the Department of Justice and Police, 2,976,900 francs from the Military Department, 220,000 francs from the Department of Finance, 50,000,000 francs from customs, 507,500 francs from the Department of Commerce, Industry, and Agriculture, 349,400 francs from railroads, 37,384,000 francs from the post-office, 9,712,400 francs from telegraphs, and 12,435 francs from miscellaneous sources. The total expenditures for 1901 were estimated at 105,855,000 francs, of which 4,249,055 francs are for interest and sinking-fund of the debt, 1,236,900 francs for the general administration, 671,100 francs for the Political Department, 13,293,535 francs for the Department of the Interior, 527,400 francs for the Department of Justice and Police, 28,120,923 francs for the Military Department, 367,700 francs for the Department of Finance, 5,191,200 francs for customs administration, 1,417,400 francs for industry, 2,840,335 francs for agriculture, 1,008,900 francs for commerce, 26,400 francs for the assay office, 406,900 francs for railroads, 35,630,000 francs for the post-office, 10,825,535 francs for telegraphs, and 41,717 francs for miscellaneous expenses.

The Army.—Every Swiss citizen capable of bearing arms either performs military service or pays a tax. Between the ages of twenty and thirty-two he is a member of the Auszug, or Élite, then till he is forty of the first ban of the Landwehr, then of the second ban till he is forty-four. There were 543,120 men liable to service in 1899, of whom 249,959 were enrolled in the Auszug or the Landwehr, 283,983 paid the military tax, and the remainder were physically incapable or otherwise exempt. The contingent of recruits for 1900 was 17,037. The Landsturm comprises all citizens between the ages of seventeen and fifty who are not in the army. They can only be called out in the event of war. Recruits for the Auszug receive from forty-two to eighty days of military instruction and afterward are called into camp for sixteen days every second year and every year are exercised in shooting or cavalry tactics. Before entering the army boys are trained in school in military gymnastics and the use of

arms, and military exercises do not cease when service in the Auszug is completed, for the Landwehr are mustered periodically for inspection and practise. The total effective of the Auszug on Jan. 1, 1900, was 150,876 men, comprising 113,617 infantry, 4,551 cavalry, 20,442 artillery, 5,586 engineers, 4,928 sanitary troops, 1,451 administrative troops, and 301 bicycle troops. Only the engineers, cavalry guides, train, artificers, and sanitary and administrative troops belong to the Confederation. The infantry and the ordinary cavalry and artillery are maintained by the cantons, which receive half the military tax. The Auszug is organized in 4 army corps of 2 divisions each, and every division has its district in which the bulk of its soldiers are raised. A division consists of 2 brigades of infantry, 1 battalion of carbiniers, 1 company of guides, 1 regiment of artillery, and 1 half-battalion of engineers. The general staff on Jan. 1, 1900, was composed of 48 officers, with 766 officials, non-commissioned officers, and privates, besides 311 in the Landwehr. There is no officer of higher rank than a colonel until the army is mobilized, when one of the colonels is appointed commander-in-chief with the title of general, which he retains only during mobilization. The Landwehr on Jan. 1, 1900, numbered 62,789 men in the first and 24,575 in the second ban, the Landsturm 277,007 men, making with the Auszug a total strength of 515,247 men. The infantry is armed with the Swiss repeating-rifle, model of 1896, of 7.5 millimeters caliber. The artillery have 584 field, mountain, and position guns, steel breechloaders of 7, 5, and 8 centimeters, 4 centimeters, and 12 centimeters bore respectively.

Commerce and Production.—Of the total area of Switzerland 71.6 per cent. is productive land, and of this 35.8 per cent. is pasture and meadow, 29 per cent. forest, 18.7 per cent. orchard and vineyard, and 16.4 per cent. farm and garden. Cheese and condensed milk are exported in great quantities, 295,679 quintals of the one and 220,916 quintals of the other in 1899. There were 30,020 hectares of vines, from which 867,910 hectoliters of wine were produced, value 33,687,218 francs. Not nearly enough food is produced to supply the population. Rye, oats, and potatoes are the principal farm crops. The forests cover 3,296 square miles. The district between the Lake of Geneva and the Lake of Constance is preserved and reafforested under federal forest laws. In 1899 the number of trees planted was 23,669,657. The fish hatcheries in 1899 produced 32,744,000 fry. The production of salt in 1899 was 468,929 quintals; of cement, 524,015 tons. The quantity of beer brewed was 2,143,078 hectoliters. The federal alcohol *régie* in 1899 sold 64,417 hectoliters of potable and 44,720 hectoliters of methylated spirits. There were 4,933 factories subject to the factory laws in 1895, employing 200,002 persons and having machinery of 152,718 horsepower, half steam and half water power. The textile industries, the manufacture of food products, watch-making, wood-carving, the manufacture of jewelry, the leather and rubber industries, metal manufactures of various kinds, chemical manufactures, and the manufacture of paper are the leading branches of industry.

Legislation.—The law for the compulsory insurance of working men after elaborate preparation and years of discussion was passed by the Chambers, and then on May 20, 1900, rejected by the people in a national plebiscite by a formidable majority. Great care had been taken to conciliate the mutual-benefit societies, whose members belong to the *bourgeoisie*, and the highly

paid artisan class. The independence of these old societies was assured, and to secure their support the bill was loaded with complicated restrictions and exceptions. Their members were indifferent, the rural population disliked the law, and the industrial workers did not care for it, saying that

it insured only those who were not in need of insurance. The question was taken up again in the Chambers, and an attempt was made to frame a bill of briefer text, more clear and logical, and better calculated to satisfy the working classes generally.

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TENNESSEE. (See under UNITED STATES.)

TEXAS. (See under UNITED STATES.)

THEOSOPHISTS. The Theosophical Society, the American section of which was founded in New York city in 1875, lays special stress upon the study of the knowledge acquired by the sages of the past, and especially by those of the East, and upon the culture of man's spiritual nature to the end of attaining a clear insight into the immaterial, spiritual world, in the course of which, it is believed, men may acquire perception of and control over various forces in Nature unknown to others. Parallel with these aims is a system of doctrines regarding nature, mind, religion, the destiny of the soul, occult science, and social laws. The society comprises 8 national sections, with general headquarters at Adyar, India, viz., the Indian, American, European, French, Scandinavian, Australasian, New Zealand, and Netherlands sections, to which it is expected an Italian section will soon be added. More than 20,000 members have joined the society and 600 charters have been issued to branch societies since its foundation. A return made to the annual convention in May, 1901, gave the number of branch societies in the American section as 74, and of members as 1,455.

The fifteenth annual convention of the American section met in Chicago, Ill., May 26. Col. Henry S. Olcott, president-founder and president of the entire society for life, presided. Greetings were received from the New Zealand and European sections, and an accredited representative of the European section addressed the convention, speaking of great activity prevailing in the centers in France, Holland, and Italy, and the possibility of forming a strong center in Switzerland. Eight new branches had been chartered, and as many had dissolved or had their charters canceled during the year. An increase of 169 members was shown. The receipts of the Propaganda fund for sustaining traveling lecturers and teachers had been \$910, and a surplus remained on its account of \$104. A discretionary fund of \$500 had also been at the disposal of the general council, and was to be continued by the donor for another year. The treasury surplus was \$496, against \$798 in the previous year. During ten months \$487 had been received and forwarded for the Indian Famine fund. A rule had been adopted by the General Council and promulgated as law defining the relation to the Theosophical Society of similar societies outside of it, and prescribing the method by which persons who had seceded from the society might be readmitted to membership. The National Committee reported concerning the use of lending libraries, the circulation of lectures, correspondence work, reference work in connection with Mrs. Besant's book *The Ancient Wisdom*, and newspaper work.

TURKEY, an empire in eastern Europe and western Asia. The reigning Sultan is Abdul Hamid II, the thirty-fourth in line from Othman, the founder of the dynasty and the twenty-eighth since the capture of Constantinople in 1453. The throne descends to the senior prince born in the

harem. The laws of the empire are founded on the Koran. The Sultan possesses supreme civil and religious authority which he exercises in civil affairs through the Grand Vizier and in religious affairs through the Sheik-ul-Islam, whose appointment is made with the concurrence of the Ulema, a body composed of the highest acknowledged exponents of Mohammedan doctrines and laws, summoned by the muftis, who are the expounders of the Koran. The Privy Council, corresponding to the Cabinet in constitutional countries, was composed in the beginning of 1901 as follows: Grand Vizier, Halil Rifat; Sheik-ul-Islam, Jemaleddin Effendi; Minister of the Interior, Memduh Pasha; Minister of Foreign Affairs, Tefik Pasha; Minister of War, Riza Pasha; Minister of Marine, Hassan Pasha; Minister of Finance, Reshad Pasha; Minister of Justice, Abdurrahman Pasha; Minister of Public Works and Commerce, Zihni Pasha; Minister of Education, Zuhni Pasha; Minister of Religious Endowments, Galib Pasha; President of the Council, Said Pasha. In accordance with the capitulations foreigners live in Turkey under their own laws, and cases between them are tried in consular courts.

Area and Population.—The Ottoman Empire in Europe in the sixteenth century was nearly four times its present size, extending into Hungary and Russia. All of northern Africa was once Turkish also, as well as Greece and the islands of the Mediterranean. The territories now subject to the immediate rule of the Sublime Porte having an extent of 65,752 square miles in Europe, with 6,086,300 inhabitants; 398,900 square miles in Africa, with 1,300,000 inhabitants; and 650,394 square miles in Asia, with 17,545,300 inhabitants; total area, 1,115,046 square miles, with 24,931,600 inhabitants. The tributary states of Bulgaria and Egypt, the provinces of Bosnia and Herzegovina occupied by Austria, and the autonomous principalities of Samos and Crete have a combined area of 464,936 square miles and 14,969,313 inhabitants, making the total area of the Turkish Empire 1,579,982 square miles and the total population 39,900,913. The population of European Turkey is composed of Turks, Slavs, Greeks, and Albanians in nearly equal proportions, with a sprinkling of Rumanians, Magyars, gipsies, Circassians, and Jews. In the Asiatic dominions the Turkish element is the most numerous, but two-thirds of the population is composed of other races, chief among them the Arabs, Greeks, Armenians, Kurds, Syrians, Circassians, and Jews. In Asia Mohammedans constitute the bulk of the population, but in European Turkey half the people are Christians of the Greek Orthodox faith, and in Asia there are the Greek, the Armenian, the Latin, the Maronite, the Syrian, and the Protestant bodies, all of which, as well as the Jews, are recognized by the Porte and privileged to rule themselves in religious and social matters according to their own creed and customs.

Finances.—The average revenue for the three years ending with 1895 was £ T. 18,927,745, and the average expenditure was £ T. 19,796,182.

For 1898 the estimate of revenue was £ T. 18,511,322, of which £ T. 4,100,000 came from tithes, £ T. 2,511,924 from the land and property tax, £ T. 500,000 from the income tax, £ T. 886,210 from the military tax collected from non-Mohammedans in lieu of service, £ T. 1,937,849 from the sheep tax, £ T. 321,273 from various other direct taxes, £ T. 2,000,000 from customs duties, £ T. 2,571,146 from indirect taxes on salt, tobacco, spirits, fisheries, silk, stamp duties, etc., most of which are assigned to the Debt Administration, £ T. 532,793 from the military departments, £ T. 1,962,036 from the civil departments, £ T. 51,775 from the share of the Government in the profits of the tobacco *régie*, and £ T. 1,136,316 from tribute, part of which is assigned to the Debt Administration. The estimated expenditures for 1898 amounted to £ T. 18,429,411, of which £ T. 882,550 were for the Sultan's civil list, £ T. 750,059 for tributary debt, £ T. 2,661,839 for loans under the debt administration, £ T. 1,204,839 for other loans, £ T. 523,523 for floating debt, £ T. 868,894 for railroad guarantees, £ T. 450,000 for the war indemnity due to Russia, £ T. 749,484 for religious endowments, £ T. 4,489,698 for the army, £ T. 1,013,944 for the gendarmerie, £ T. 546,209 for the navy, £ T. 462,177 for the artillery, £ T. 989,322 for the Grand Vizierate, the State Council, and the Department of the Interior, £ T. 668,011 for the Department of Finance, £ T. 461,441 for the Department of Justice, and £ T. 1,707,269 for other departments.

The Turkish debt on June 30, 1900, amounted to £ T. 136,407,659, of which £ T. 82,823,127 were the conversion loan of 1881, £ T. 30,338,087 various loans issued between 1888 and 1894, £ T. 13,953,897 the lottery bonds, £ T. 5,169,968 the 5-per-cent. customs loan of 1886, £ T. 920,260 bonds issued for the Tumbeki Company in 1894, and £ T. 3,202,320 the 5-per-cent. loan of 1896. Excepting three loans for which the Egyptian tribute is pledged, converted in 1891 and 1894 into 4- and 3½-per-cent. bonds, the customs and the Tumbeki loans, and a loan of £5,000,000 sterling guaranteed by the powers in 1855, all the Turkish loans have been placed in charge of the Council of Debt Administration, which receives the proceeds of the excise duties, the tobacco tithe and *régie*, the Bulgarian, Eastern Roumelian, and Cyprus tributes, and the tax on Persian tobacco. Four-fifths of the net receipts from these sources is paid as interest and one-fifth is laid by for a sinking-fund. If the receipts grow to be more than enough to pay 4 per cent. interest the surplus goes into the Government treasury. Up to the present the interest paid has only been about 1 per cent., but the reserve fund reached £536,363 in June, 1900. The assigned revenues yielded £ T. 2,616,735 in 1900, giving the net sum of £ T. 2,154,702 for interest and amortization, the expenses being £ T. 462,033. Besides loans the Turkish Government owed £ T. 24,513,000 in 1898 to Russia, being the unpaid balance of the war indemnity, and to Russian subjects £ T. 50,000 of indemnities, besides which there was a debt of £ T. 273,494 to the Damascus Railroad.

The Army.—Every Mussulman from the age of twenty is obliged to serve in the Turkish army when called to arms, for four years in the Nizam, or regular army, and two years in its reserve, then for four years in the first and four years in the second ban of the Redif, and subsequently for six years in the Mustahfiz. Those who are not drawn for active service are drilled from six to nine months and afterward for one month each year. The strength of the regular and reserve forces in 1900 was 583,200 infantry in 648 bat-

talions, 55,300 cavalry in 202 squadrons, 54,720 artillery with 1,356 guns, and 7,400 engineers in 39 companies. The total war strength of Turkey is estimated at 1,500,000 men instructed in the use of arms. There are 117 battalions of gendarmerie. Besides the regular cavalry there are the Hamadieh regiments, of which there will be 48 of 4 to 6 squadrons when fully organized, a militia force in the army districts of Erzinjan, Damascus, and Bagdad, commanded by the chiefs of the tribes from which they are drawn and expected to furnish their own horses and equipments, the Government furnishing only the arms. Three of the 7 army corps were already armed in 1900 with the small-bore Mauser rifle, of 7.65 millimeters caliber, and the fourth corps had large-bore rifles of 9.5 millimeters, 450,000 weapons having been given out, 250,000 being on hand to be distributed, and 222,000 having yet to be purchased in order to fully supply the army corps.

The Navy.—The Turkish navy is composed of small vessels, nearly obsolete, suitable only for port defense. Four old ironclads of 6,400 tons, the Aziziye, Mahmudiye, Osmaniye, and Orkaniye, dating from 1864, have had barbettes turrets placed fore and aft for their 11-inch Krupp guns. The Messudiye, of 8,990 tons, launched in 1874, having 12-inch armor and 12 18-ton Armstrong muzzle-loaders in a central battery, with 3 5.9-inch Krupps, has lately been reconstructed in Italy. The Assari-i-Tevfik, of 4,600 tons, launched in 1868, having a broadside battery of 8 9.4-inch guns, and 2 8.2-inch Krupp breech-loaders, is to be reconstructed in Germany. The Hamidiye, of 6,700 tons, launched at Constantinople in 1885, has 10 19-ton guns in a central battery and 2 6.6-inch Krupps. This vessel is not yet fully armed, and the barbettes cruiser Abdul Kader, of 8,000 tons, having 14-inch armor and an armament of 4 20-ton guns, 6 5.9-inch Krupps, and 10 quick-firers, is far from completion. There are 8 central-battery and 1 turret-ship of 2,050 to 2,720 tons, 2 armored gunboats, 2 destroyers, and 19 first-class and 7 second-class torpedo-boats. The Turkish Government is desirous of securing modern vessels and has been in negotiation with shipbuilders in Germany, the United States, and Great Britain, but the state of its credit, the hypothecation of the revenues for debt, and especially the demand of the Russian Government for the payment of the war indemnity, have hitherto prevented the execution of such projects.

Commerce and Production.—Only 6 or 7 per cent. of the total area of European and Asiatic Turkey is cultivated, although a large part of the land could be made very productive. The chief drawback is the lack of transport facilities, but even where these exist the tithes and taxes levied by the Government and the collection of duties at the provincial boundaries check agricultural development. In different parts of the empire are grown cereals of all kinds, coffee, opium, madder, nuts, almonds, grapes, olives, figs, and cotton. The production of opium in 1900 was 7,500 chests, equal to 105,800 pounds. Silk culture, which was checked by disease among the silkworms, is again increasing in the provinces of Brussa and Ismid in Asia Minor, which in 1900 produced 6,146,620 kilograms of silk, against 4,950,315 kilograms in 1899, and 556,000 ounces of silkworm eggs, of which 402,000 ounces were exported. The production of attar of roses has lately declined, being about 2,000 kilograms in 1898, against 3,900 kilograms in 1896, and to give an impetus to this industry the Ministry of Agriculture has furnished rose-bushes to the people free. The mineral resources of Turkey are

great, but undeveloped. The Asiatic provinces annually produce about 15,000 tons of chrome, 20,000 tons of silver lead, 5,000 tons of zinc, 200 tons of antimony, and 1,500 tons of copper ore, 400,000 tons of coal and lignite, 18,000 tons of borax, and 150 tons of meerschaum, and in the province of Salonica 45,000 tons of manganese ore are mined. A duty of from 5 to 15 per cent. is levied on exports of minerals, and by a recent decree foreigners are not allowed to own and operate mines. The fish taken in the Bosphorus, valued at £ T. 250,000 a year, and the sponges of the Mediterranean, the mother-of-pearl of the Red Sea, and the pearls of the Persian Gulf are valuable resources. Among the manufactures of Turkey are turned-brass and hammered-copper utensils, silk and cotton dress stuffs, embroideries, rugs, and ornamental work in wood, metals, and other materials.

The export of salt in 1900 was 35,223,513 kilograms, against 39,478,668 kilograms in 1899; of wine, 12,761,130 liters, against 7,397,360 liters; of spirits, 211,787 liters, against 151,730 liters.

Railroads and Telegraphs.—There were 2,953 miles of railroads in the Turkish Empire in the beginning of 1900, of which 1,240 miles were in Europe and 1,713 in Asia, the latter figure including the still unfinished line from Acre to Damascus. A line from Damascus to Mecca was being built and one from Konieh to Bagdad and Basra was contracted for, being the continuation of the Anatolian Railroad built by a German company. The gross receipts of the railroads in 1899 amounted to £1,303,094.

The length of telegraph-lines in the Ottoman Empire is approximately 22,400 miles, with 39,600 miles of wire.

Macedonian Agitation.—The Bulgarian revolutionary agitators were unusually active in Macedonia in the spring of 1901. In February the Russian ambassador called the attention of the Porte to the situation and pointed out the necessity of taking efficacious measures for the punishment of the guilty and for the protection of the peaceably disposed. The British, French, and Italian ambassadors gave similar advice. Turkish troops were massed in the European provinces to guard against an uprising and to suppress disorders. The Bulgarian Government was warned by the powers against countenancing the agitation. A national Albanian movement, encouraged by Albanians in Italy, was called forth by the spread of the Macedonian agitation, by the Pan-Servian agitation which this occasioned, the aim of which is to unite Serbia, Montenegro, Bosnia, Herzegovina, and Old Serbia under one scepter, and by the project of an Austrian railroad through the sanjak of Novi Bazar, threatening eventually to establish the political domination of Austria over Albania, a scheme which touched the susceptibilities of Italy as well as the patriotic aspirations of the Albanians. The Arnauts in Old Serbia have gradually acquired the best of the land, and the Slavs have become laborers. The Bulgarian committees extended their operations into Monastir and collected forced contributions from Greeks and others. Austrian influence in Albania has long been pursued among the Catholic Ghegs by the Jesuits and Franciscans, and the Austrians were stronger in Albania itself than the Italians, whose propaganda was spread by laymen; but the large Albanian colony settled in southern Italy exercised a powerful influence in favor of Italy. More recently Italian schools have been erected and Italian priests settled among the Catholic Albanians. The Turkish military and police authorities arrested and im-

prisoned many persons in Uskub and other places who were suspected of belonging to the Bulgarian revolutionary party. The Turkish soldiers, whose pay was in arrears, committed excesses. In April 19 prominent Bulgarian citizens of Salonica and 150 persons arrested in other parts of the province were tried in that city. The evidence showed that 6 revolutionary bands were active, and during the preceding month about 15 more had been formed, each consisting of from 12 to 15 men. The trial resulted in the sentence of 3 of the accused to death, of 7 to life imprisonment, and of several to imprisonment for long terms. Servians as well as Bulgarians were arrested, but no Greeks. The Greeks helped the authorities to detect the agitators. In Monastir a Bulgarian pope who had joined the Greek Church was murdered by revolutionists. The Macedonian committee of action gave authority to the bands, whose leaders alone had any knowledge of the central committee, to punish informers and renegades with death. Special commissioners of the Turkish Government discovered that some of the officials of Salonica and other vilayets had been receiving money for the release of wealthy Bulgarians who had been arrested. The Turkish troops on the Bulgarian frontier stopped revolutionary bands that endeavored to enter into Turkey, and several sanguinary encounters took place. The Servian frontier was disturbed by conflicts that occurred between Arnauts and Servians. The Servian Government protested at Constantinople against the violation of its territory by Turkish Arnauts. The Albanian aspirations were put forward by committees of Albanians living abroad, not only in Italian cities, but in Bucharest, Athens, and Brussels. The Albanian chiefs united in a petition to the Sultan for substantial autonomy. They desired that a governor of Albanian nationality should be appointed and that the Albanian language should be used in religious services and in the schools. When these demands were first presented in 1898 they were peremptorily refused and the Porte threatened to send troops into Albania to uphold and enforce the Sultan's supremacy in case of further insistence. In July the Servian Government appealed to the foreign embassies in Constantinople. Albanian bands had raided several villages over the border as well as in Old Serbia. In Prisrend churches were pillaged. At Kolashin, in the district of Mitrovitz, gendarmes and Arnauts on the pretext of searching for arms killed 3 Servians, attacked several villages, and threatened to expel the bishop and the Servian consul. The Russian ambassador demanded the cessation of domiciliary visits and the release of the arrested Servians. Turkish troops sent into Albania had several encounters with the Albanians. Both Austrian and Italian war-vessels were despatched to Albanian ports on the Adriatic.

The Albanians continued their raids on the Christian villages of Kossovo and Monastir, and 1,000 Turkish Serbs sought refuge in Serbia. The Servian Government demanded the dismissal of the Turkish officials who had encouraged the outrages at Kolashin and other places. In Albania the Turkish troops plundered villages, and the judges and police refused to continue their functions unless they received their pay. Throughout Macedonia the Turkish soldiery, receiving from the Government neither pay nor rations, took what food they needed from the villages. Central Albania lapsed into a state of anarchy. On the repeated demands of the Russian ambassador the Porte removed, in September, the Mutasserif of Prishtina and other officials of

Prishtina, Novi Bazar, and Mitrovitza, and had a number of disorderly Albanians arrested and taken to Constantinople. On Nov. 16 Kiazim Pasha, who for four years had endeavored to secure the pacification of Albania, was removed from his post as vali and from the command of the troops at Scutari on the demand of the citizens of that town. Several officials who had proceeded too harshly against Bulgarians were replaced earlier in the year. Murder and robbery became more frequent in Macedonia. On Sept. 6 Helen Stone, an American missionary, and Mme. Tsilka, a Protestant convert, were kidnapped near the village of Bansko by a band of Bulgarian revolutionists, whose means of subsistence had been curtailed since the suppression of the extortionate methods of the Central Macedonian Committee in Sofia. The Turkish Government ordered troops to catch the robbers, but at the request of the American representative they were recalled lest the ladies' safety be endangered by the pursuit. A ransom of £25,000 sterling was demanded by the captors, who took their prisoners into the mountains on the Bulgarian side of the border. The American consul-general made a demand on the Bulgarian Government for the arrest of the chief instigators of the plot. The police of Sofia made a show of seeking to arrest Sarafof, the former president of the Macedonian Committee. No arrests were made, however, and the Bulgarian Government tried to throw the responsibility for the crime upon the Turkish authorities, since it was committed on Turkish soil. The consul-general and the American Board of Foreign Missions declared that no ransom would be paid, because if the kidnapers obtained their price no American missionary in Turkey would be safe.

The Armenian Question.—In Armenia a special tribunal was established at Erzerum to deal with Kurdish outrages. The Porte issued a decree prohibiting the return or entry of Armenians who had obtained Russian or American citizenship or protection. Against this the Russian embassy and the American legation formally protested on June 3. The Kurds became ungovernable and renewed their oppression of the Christians to such an extent that the valis of Kastamuni, Erzerum, and Diarbekir were recalled. In the sanjak of Mush the Kurds accused the Armenians of Moghunk of having murdered one of their notables and proceeded to take vengeance by plundering that and other villages, destroying crops and killing over 100 Armenians. In the region of Erzerum similar disorders occurred. A circular was issued enjoining the valis to suppress disturbances vigorously with the public forces alone and not to call upon the inhabitants for assistance. Revolutionary Armenian bands from Russian territory tried to start an insurrection in Mush and Sassun, and were dispersed by Kurds and troops after sanguinary fighting. Subsequently the Kurds wreaked their vengeance on the Armenians of the district. Another edict was issued informing the valis that the Sultan desires order and tranquillity to prevail throughout the empire, with justice and security for all races and creeds. A strong Turkish garrison was quartered at Sassun and blockhouses were built in the mountains. These measures were as unwelcome to the Kurds as to the Armenians. In connection with disturbances in the Erzerum, and afterward in the Bitlis vilayet, the authorities blamed the revolutionists and arrested Armenians only. The American Government pressed for the restoration of the college and mission buildings that were destroyed in the last insur-

rection and received fresh promises from the Porte that its engagements would be fulfilled. The Russian Government gave orders in respect to the Armenian refugees in Transcaucasia that all who desired to become Russian subjects would be received as such at once, without having to wait until they have resided in Russia for the legal period required in other cases. They would be liable to military service from 1903, but would not receive allotments of land in any peasant communes nor for twenty years be permitted to acquire real property outside of the cities. Those who wished to leave Transcaucasia and settle in other parts of Russia would be assisted to do so. All Armenian refugees who arrived in Russian territory before Feb. 1, 1901, were required to elect at once whether they would become naturalized Russians. Those who had come since that date and those who did not elect to become Russians were ordered to leave the country at once.

Political and Financial Questions.—In new commercial treaties with Austria, Russia, France, Roumania, Serbia, and Greece it was stipulated that the Turkish inland duties on goods carried by water should be reduced from 8 per cent. to 2 per cent. A few years before, the duties between different Turkish provinces were abolished. These inland tolls have been detrimental to Turkish production. They have destroyed the wine industry in Turkey by compelling the producer to pay 67 per cent. of the value of his wine in various imposts, while Greek wine is admitted at a low rate. Turkish manufactures are at a disadvantage in the competition with foreign goods, on which a single import duty of 8 per cent. is levied, while the Turkish industrialist must pay this duty first on imported raw materials and once again on the finished article. In a new commercial convention with Bulgaria numerous articles are admitted free of duty. A similar convention was made with Montenegro. In the conventions with Serbia and Roumania stipulations were made for the safety of the persons and property of Mohammedans residing in those countries. A series of differences arose between the Porte and the powers over the action of the Turkish Government in attempting to take into its own hands certain public functions which had been organized under the auspices of the embassies. When the Turkish Government appointed sanitary inspectors the ambassadors protested in a collective note, asserting the prescriptive right of their delegates on the Board of Health to elect the inspectors. On March 23 the Russian ambassador demanded the payment of £ T. 50,000 of arrears from the previous year on account of the war indemnity. In April the council of the Greek patriarchate deposed Constantine V, the Ecumenical Patriarch, holding him responsible for the closing of many churches in Macedonia and the confiscation of lands belonging to Greek monasteries. Many Mussulmans were exiled in the summer for participation in the Young Turkey movement, which officials were forbidden ever to discuss or mention. The mails were seized with the object of abolishing the foreign post-offices and having the Government Postal Department carry on the whole business. Another object was to discover the persons in Turkey who carried on a correspondence with the leaders of the Young Turkey party who were living in various European capitals. Munir Pasha, the Turkish ambassador in Paris, sent warning of an intended revolutionary demonstration in Constantinople. The embassies were requested not to issue cards to persons desiring to see the Selamlık procession. During the Bai-

ram festival the palace hall in which the ceremony took place was shaken by an earthquake, but the presence of mind displayed by the Sultan averted a panic among the 3,000 people present. On June 15 a fire occurred in the Yildiz Kiosk which was attributed to incendiaries, and after investigation a large number of palace officials were banished to Yemen. The seizure of the mail-bags by the Turkish postal authorities took place on May 6. On the same day the embassies were informed that in the future the foreign mails would be delivered through the Turkish post-office. The foreign postal bureaus were told that if they would not agree to this the departure of the mails for Europe would be stopped. They were stopped, but on the demand of the ambassadors the mail-bags were released, though only after they had been opened. The Turkish post-office, established after the Crimean War, was at first farmed out to contractors, then taken over by the Government in 1861, but the postal rates were reckoned according to distances until 1888, when uniform postage in conformity with the regulations of the universal postal union was introduced. Postal stations were spread all over the empire, until now there are no foreign post-offices outside of Constantinople except at Jerusalem, Janina, and Adrianople. The ambassadors paid no attention to the demand of the Porte that the postal traffic be surrendered to the Government post-office, and the Porte yielded for the moment, reserving the right to exercise its sovereign rights at some more convenient time. Reshad Pasha, Minister of Finance, was relieved of his functions on May 6, and Zuhdi Pasha, Minister of Public Instruction, temporarily assumed the duties of that post in conjunction with his own. The necessities of the treasury became so pressing that advances amounting to £480,000 were obtained from the tobacco *régie* and the Ottoman Bank. On Sept. 17 Reshad Pasha was called back to the Ministry of Finance. A dispute with the French Government over a concession to a French company gave rise to strained relations between the two governments. The company had completed quays in Constantinople at a cost of £1,800,000 which produced a revenue of only £41,000, and complained that the Turkish Government did not give it the full benefit of the dues. The company claimed furthermore the right to sell lands which the improvement had made valuable, but the Government refused to sanction the sale. The Turkish Government wished to purchase the quays, deeming highly dangerous the facilities they afford for landing and embarking passengers, but as the company asked 45,000,000 francs the ministers could not raise a loan for the purpose because the quays do not yield enough revenue to pay the interest. Various claims of French citizens against the Turkish Government were combined with those of the quay company when the French Government determined on bringing pressure on the Sultan. There was an old claim to the inheritance of one Lorando which a French court had assessed at 12,500,000 francs. A French jeweler had a claim for articles supplied to the harem of the Sultan Murad. French bankers in Constantinople had a claim of 20,000,000 francs which was long overdue for advances to the Government. There was also a claim for money advanced for the construction of railroads, amounting with unpaid interest to 45,000,000 francs. These old claims, which consisted chiefly of compound interest at 9 per cent., the Sultan considered questionable, and desired a compromise. The pecuniary rights of the quays company he recognized,

but he maintained his right to expropriate the quays for state reasons. The Sultan promised to borrow 100,000,000 francs through the Ottoman Bank, and with this sum pay its French creditors and purchase the quays for 41,000,000 francs. When the Turkish Foreign Minister came to M. Constans on the following day with a different proposition, the French ambassador refused to listen to him, and said that if the arrangement which the Sultan had approved were not carried out he would not see the Sultan any more. The Sultan then removed the interdiction which prevented the quays company from establishing a ferry between Galata and Stamboul, extending the quays up into the Golden Horn, and building on adjacent land, rights which were embraced in the original concession. The quay company having been placed in possession of its full rights, the main question between the two powers was settled. A claim of the lighthouse board for the Adabazar marshes, which the Government had taken, then restored, and then taken away again, was also settled by the agreement to pay an indemnity of £ T. 27,000. The Turkish Government still held out for a reduction of the individual claims dating back to Sultan Murad's time. M. Constans, who had received from his Government authority to act at his own discretion, insisted that in these minor matters the arrangement made on Aug. 17 with the Sultan's approval be literally carried out. On Aug. 23 he announced that he would leave if this were not agreed to, and on Aug. 26 he left Constantinople. Munir Bey, in Paris, received his passports. The Porte requested Russian mediation in the matter of the Lorando and the bankers' claims, which were the cause of the rupture. No reply was made to this communication until a rupture between France and Turkey became imminent, when the advice came from St. Petersburg to yield to the French demands. The French Government decided to make a naval demonstration in the Levant in order to enforce its demands after giving ample time to the Turkish Government to make amends. As a condition of the renewal of diplomatic relations France demanded the recognition by Turkey of the treaty of Bardo, made in 1881, wherein Tunis acknowledged the establishment of a French protectorate. Turkey after the rupture gave fresh cause for offense to France by exacting from the French religious orders in the Turkish dominions the payment of a tax of 5 per cent. on real estate in spite of the capitulations, reestablishing the 5-per-cent. customs duty for the Roman Catholic monks in Jerusalem, and forbidding religious orders to settle on Ottoman territory without previously obtaining authorization. The Sultan yielded on all the points involved in the original controversy. These new regulations, however, were objectionable to France as the power protecting Roman Catholics in Oriental countries. The cause of the rupture was not the denial of the private money claims of private individuals of doubtful French nationality, but the deliberate failure of the Sultan to keep his word after giving it to the French ambassador. The French Government therefore determined to carry out its intention of making a naval demonstration. On Nov. 1 a French squadron, composed of the battle-ships *Gaulois* and *Charlemagne*, the armored cruisers *Amiral Pothuau* and *Latouche Tréville*, and the cruiser *Galilée*, proceeded to the island of Mitylene to seize the customs dues of the port of Kastro. On Nov. 7 Rear-Admiral Caillaud occupied the telegraph office with 60 men. The Sultan and his advisers had supposed that the concessions al-

ready given in answer to the latest demands of France would end the conflict. On learning of the landing, the Sultan resolved to give France satisfaction on all points. Having already complied with the original demands and accepted the fresh demands of France, the Sultan issued an *irade* recognizing the legal existence of the mission schools, hospitals, and religious establishments which are French or under French protection, and according to them immunity from land taxes and customs duties conformably to treaties and conventions; authorizing the erection, repair, or enlargement of schools, hospitals, or religious establishments damaged or destroyed during the events of 1894, 1895, and 1896 in Asiatic Turkey and in Constantinople; undertaking to consider as authorized any religious, educational, or other establishments which France may like to found in the future, or any erections or enlargements to which the Imperial Government fails to make objections within six months after being apprised of the intention, and ratifying the election of the Chaldean Patriarch. The French Government on receiving these concessions, valuable to the religious communities and confirming the position of France as protector of Catholics in the Levant, recalled the squadron, which departed from Mitylene on Nov. 11.

The desire of the Sultan to preserve the national rights and existence of the Ottoman Empire and guard against further privileges being claimed on behalf of foreigners to the detriment of Turkish sovereignty was shown by his attempt to bring sanitary and postal affairs under Turkish official management, by regulations regarding Catholic missionary congregations, and by the renewal of a decree forbidding Jews of foreign nationality to remain in Palestine longer than three months, or to acquire land in that province. The wholesale exodus of Jews from Russia and their recent emigration from Roumania gave rise to the apprehension that they might overcrowd Palestine, and this apprehension was strengthened by the increasing activity of the Zionists, who were believed to be aiming to reestablish a Jewish state in the ancient seat. The measure applies both to traders and pilgrims. Great Jewish bankers of Europe offered to loan money to Turkey on condition that the Sultan should favor their plans of the Jewish colonization of Palestine. There were 43,542 Jews living in Palestine in 1898, of whom one-third were foreign settlers. A school at Mihve-Israel, on the plain of Sharon, which is supported by the French Hebrew Alliance, is devoted to training Jews for agriculture. The same society has schools at Jaffa, Haifa, Jerusalem, Safed, and Tiberias, and it supplies funds to give farmers a start. The settlers in Sharon, Esdraelon, and north of Carmel produce the best wine.

German commercial schemes in Asia Minor were approved by the Sultan, who relied much on the political friendship of Germany. The Turks looked with some alarm on the encouragement given to foreign enterprises when legal obstructions and fiscal exactions prevented them from developing the resources of their own country. The Anatolian railroads have been slowly constructed and have been profitable as far as they are completed to their undertakers. The Russian Government, when the extension of the German railroad to the Persian Gulf was a subject of negotiation, objected to any concession being given to any but Russians for railroads within the drainage basin of the Black Sea, offering, if the Turkish Government thought a railroad on the Black Sea littoral to be necessary, to construct

one or to loan the money for its construction to the Turkish Government. The Germans in Asia Minor have in their extraterritorial privileges an advantage over Turkish competitors and are aided in their enterprises by their Government. The Turkish Government has undertaken with the aid of Turkish capital to build the railroad from Hijaz to Damascus, and although subscriptions of capital have been disappointing, soldiers have been employed in leveling the line and the tribes along the route have given assistance. To continue their line from Konia to the Persian Gulf the Germans, who received the concession in 1899, required a kilometrical guarantee. Disturbances occurred early in 1901 in the region where the terminus of the railroad will be. Mubarek, the sheik of Koweit, who had overrun Nejd, in central Arabia, and defeated Ibn Reshid, the Emir, was attacked by the latter and in turn defeated in a great battle in which the losses on both sides were reported as amounting to 5,000. Ibn Reshid was aided by the Turkish Government in regaining his power, and in the name of the Government he demanded from Mubarek the payment of taxes for Koweit. The Turkish vali meant to move troops to Koweit, and marched a force from Bagdad to Basra, but proceeded no farther when he learned that a British war-ship was at Koweit, whose sheik petitioned for British protection. The Vali of Basra offered the protection of Turkish troops against any further attacks of the Nejd men. The sheik of Koweit declined to receive Turkish troops. Koweit was practically independent from the time of the great Solymani until its sheik, whose family had ruled the country for two hundred and fifty years, was induced to acknowledge Turkish sovereignty in 1870 by Midhat Pasha, Vali of Bagdad, who was on an expedition to subdue Neshd, and who appointed the Sheik Mutasserif of his own territory. After the fall of Midhat the measures he had taken for the welfare of the Bagdad province were neglected. The Turkish officials continued to wring taxes from the Arabs, but Koweit in the course of time was left alone until recently attempts have been made to collect taxes once more from the districts on the Persian Gulf. The sheik sent representatives to Basra to protest, and when the general of the Turkish army corps proved obdurate the sheik made application to the British Government for protection, in consequence of which a British gunboat was sent to Koweit. Other Arab chiefs resented the reassertion of Ottoman sovereignty, especially the collection of taxes. The Sheik Saadon of Montefik resisted the payment of taxes, and to bring him and the sheik of Koweit to submission 10,000 troops were assembled at Basra and 20,000 at Bagdad. The presence of an English man-of-war at Koweit deterred the general from at once despatching a force to coerce Mubarek, as the only convenient way of reaching that district was by sea. The sheik has for many years kept the Turkish flag flying, but this he declared was the flag of Islam. On Aug. 24 a Turkish vessel appeared at Koweit with the intention of landing 500 troops to garrison the place. The British cruiser cleared for action, and the Turkish commander on receiving the intimation that he would not be allowed to land troops returned to Fao and telegraphed to Constantinople for instructions. The Turkish Government protested against the conduct of the English commander as incompatible with the friendly relations between Great Britain and Turkey. While the Turkish force was still at Basra the Emir of Nejd assembled 10,000 horsemen on the border of Koweit. The British Gov-

ernment thereupon concentrated a naval force in the Persian Gulf. Several big guns were landed at Koweit for the use of the Sheik Mubarek. Fighting occurred between the sheik's men and the Nejd warriors on Sept. 23. Subsequently the Emir withdrew his force, as the British gunboats in the harbor commanded the land approach to the town. The Vali of Bagdad sought to prevail upon the sheik to discourage the visits of British war-ships, but the sheik declined to accept his advice and persisted in his refusal to receive a Turkish garrison for the protection of his territory against the Emir of Nejd. The Emir Ibn Reshid, at the request of the Sultan, desisted from further aggression against Koweit. He had enemies nearer home to deal with, allies from among the neighboring tribes who had helped him to defeat Mubarek's army and who, regarding the reward they received as inadequate, made a combined raid on the outlying districts of Nejd. The result of the *pourparlers* between the Porte and the British Government was that Great Britain disclaimed any intention of occupying Koweit or proclaiming a protectorate over that port, but insisted on the preservation of the *status quo* in the Persian Gulf, while Turkey disclaimed any intention of effectively occupying the place or of disturbing the *status quo*, but asserted the view that Koweit was an integral part of the Ottoman Empire. The refusal of the British naval commander was explained by the British Government as having been prompted by a desire to prevent disturbances and justified by the fact that Koweit was under the rule of an independent sheik and that no sign of Turkish authority existed. The Sultan recalled the zealous Vali of Basra and appointed as vali and commander of the troops at Basra, Mustapha Noury Pasha. The Sultan sent a special emissary to Koweit to summon the sheik to Constantinople in order to make obeisance to his suzerain, threatening to remove him if he refused. At the same time Ibn Reshid collected another army and threatened Koweit. The sheik refused to allow the Sultan's envoy to land, and appealed once more to England for protection. The British naval force was increased. A Russian cruiser also appeared in the Persian Gulf. Anglo-Indian politicians were eager to assert British influence in a substantive manner on the Persian Gulf. This the British Government was not prepared to do because any forward action would provoke the active assertion of Russian influence in Persia in the direction of the Persian Gulf and would give cause of offense to Germany at a moment when negotiations were being carried on with the Porte regarding the continuation of the Anatolian Railroad from Konia to Bagdad and a port on the Persian Gulf. Koweit was the very port selected. German engineers in 1900 were not allowed by the sheik of Koweit to survey the harbor, and he refused to grant the village of Kadne for a railroad terminus, although the Sultan had agreed to the cession. The Porte needed to raise money to pay off the French claims and to pay its own officials and soldiers, and in return for a loan was willing to agree to terms proposed by the German railroad company. The concessions demanded the right to build besides the trunk line to Basra by way of Adana, Mosul, and Bagdad, branches to the Gulf of Iskanderun, Aleppo, Orfah, Hanekin, and Kazinca, with an extension to Koweit, also a preferential right to construct 7 other branches, the right to establish steamboat lines on the Euphrates, Tigris, and Shatt el Arab and of making harbors wherever the railroad touches the sea, and the privilege of working all mines within 20 kilo-

meters of the railroad. The Germans insisted furthermore on a guarantee from the Turkish Government of 13,000 francs net receipts per kilometer after deducting 4,500 francs for working expenses. French as well as German capitalists were interested in the scheme. The extension of British influence in Arabia has been pursued principally by the Indian Government from Aden as a political center and in combination with the extension of the commerce of Bombay in these regions. The Turkish Government has not been in a position to afford the sacrifice necessary to make good its nominal sovereignty over the Arabs, which can not be upheld even in the fertile parts of Yemen with powerful military forces. In central Arabia the tribes acknowledge Turkish sovereignty as long as they are left to themselves, but will not pay taxes and will defend their districts against Turkish troops. On the coasts of the Arabian Sea and the Persian Gulf the chiefs also are willing to own nominal allegiance to the Padishah unless the Turks proceed to any acts of sovereignty, when they claim independence, as in the case of the sheik of Koweit, and can appeal to the British naval forces to defend their independence. In the incessant tribal feuds the tribes which accept British dictation receive British secret aid, while their enemies are encouraged and helped by the Turks and acknowledge themselves to be good Ottoman subjects. Great Britain, or India, has subsidized the Sultan of Muscat for a long period, and that ruler acknowledges no allegiance to Turkey. During the first half of the nineteenth century the British punished the seafaring tribes on the Persian Gulf for plundering English merchantmen, exercised the right of search, and compelled them to sign treaties prohibiting the shipment of slaves and maritime warfare among themselves, leaving them free to conduct their feuds on land. Protection was promised against any chiefs who violated the treaty. The sheik of El Katr in 1871 acknowledged Turkish sovereignty and accepted a Turkish guard at the port of El Bidaa. When a war for the succession broke out in Nejd between the members of the Wahabi reigning family Midhat Pasha sent troops to support one of the claimants, and these occupied the maritime district of El Katif and the island of El Hasa. Great Britain remonstrated on the ground of the British treaties with the coast tribes acknowledging their political independence. The Porte replied that it had no intention of seeking supremacy over Muscat, Bahrein, or the coast tribes, or of undertaking naval operations. These tribes were formerly tributary to the Wahabis of Nejd, yet excepting in these occupied districts Turkey has not attempted to assert dominion over them since the submission of Nejd, which itself has been merely formal. Bahrein, where there are valuable pearl fisheries, has been claimed for Turkey as a dependency of El Hasa, and claimed also by Persia. In every case Great Britain has asserted the independence of the island, the sheik of which is virtually a British vassal. The territory of Basra was made a separate vilayet in 1875, reincorporated with Bagdad in 1880, and in 1884 again made independent. The Sultan of Muscat, or Oman, at one time had to take refuge in the citadel to escape the vengeance of rebel tribesmen who seized the town of Muscat. Since then he has strengthened his hold over the neighboring tribes and extended his rule even to the distant districts of Dhofar and Sohar and to the maritime district of Sur. He has taken the customs away from the Banyan trader to whom they were farmed out. The trade in 1901 amounted to \$4,726,000, four-fifths of which was with

India. Behind Aden the British have extended their boundaries, and here the Turkish Government has put forth efforts to prevent further encroachment. In 1891 a part of the protectorate was delimited and the frontier surveyed by an English commission. In recent years the territory in the immediate possession of the Ottoman Government has been extended steadily on the southwest coast as well as in the interior of Arabia in order to prevent the absorption of territory by England. The extraordinary efforts made for the pacification of Yemen have met with a considerable degree of success and the area of the vilayet has been almost doubled. Activity has been displayed particularly in the southwest corner of the peninsula where Turkish predominance would counterbalance the British position at Aden. The tribes outside of the sphere of British protection are brought under Turkish influence and those who are more or less under British influence are won over as far as possible. The promontory of Sheik Said, which commands the British island of Perim, and the harbor adjoining the promontory were purchased by Frenchmen in 1868, but nothing was done to improve the harbor after 1870, and in 1872 Turkey seized the promontory, repaired the old fortress on its summit, mounted guns and placed a garrison there. France made several attempts to induce the Porte to recognize her proprietary rights, but they were resisted with the encouragement of England. In the country back of this fortress the Turks have endeavored to establish their rule over the Arab tribes. The sheik of Lahidsh, in the Hinterland of Aden, gave warning that if the Turks advanced any farther he and the neighboring chiefs would invite the English to occupy their country. There are 9 tribes which recognize a British protectorate. In March, 1900, the Homala sheik, Mohammed Nazir Mukhbil, established himself in a fortified post within the territory claimed by the Haushabis, one of these protected tribes, and within the boundary mapped out by British surveyors. A party of 20 Turkish regulars proceeded to garrison this post. Representations were made to the Porte in consequence of which the fort was evacuated by the troops. The sheik afterward himself reoccupied the post. Fresh protests were made by the British ambassador at Constantino-

ple, who received the assurance that the commander of the Turkish troops in Yemen would make the sheik withdraw. The sheik, however, remained in possession, and the Turkish Government was informed that the British would themselves take steps to remove the intruder. Accordingly a force of Haushabis set out on June 27, 1901, to clear the territory of invaders and to destroy the fort. They met with strong and unexpected resistance, and were unable without artillery to effect their object. On July 14 a force of 300 British and Indian regulars and 200 natives with 6 mountain guns started from Aden with orders to expel the occupants of the fort, though not to cross the Turkish frontier. The attack was delivered on July 26, and an obstinate resistance was encountered. The village of Ad Darija and the hills overlooking the fort were taken before night, and during the night the Turks abandoned the fort, which the British blew up. Turkish troops had come to the assistance of the sheik, and among the prisoners taken by the British were Turkish regulars. The attention of the Porte was called to this, and the Vali of Yemen and the commander of the army corps stationed there received instructions to refrain from action beyond those parts of the frontier that are recognized by England, to recall troops and civil officials from beyond that line, and to exercise great prudence in their efforts to strengthen Turkish influence among the neighboring Arab tribes whether independent or under British protection. An agreement was afterward made with Great Britain for the delimitation of the boundary in the Hinterland of Aden by a joint commission. The place where the frontier conflict took place was claimed by the Porte as Turkish. The British in Aden claimed a sphere of influence beyond the political boundaries and a right to protect allies within the Ottoman territory of Yemen. Early in December disturbances occurred in Tripoli as the result of imperial decrees imposing military service and creating fresh taxation.

On Nov. 17 the Sultan appointed Said Pasha Grand Vizier to succeed Halit Rifat Pasha, who died on Nov. 9. To enable the Government to meet its engagements up to March 12, 1902, the close of the financial year, an advance of £ T. 600,000 was obtained from the Ottoman Bank.

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UNITARIANS. The Unitarians in the United States return 544 ministers, 453 churches, and 71,000 members.

The seventy-sixth annual meeting of the American Unitarian Association was held in Boston, Mass., May 21. The Rev. Samuel A. Eliot was reelected president. The income of the association for the year had been \$85,885, and the expenditure \$95,026, more than half of the sum having been applied to the aid of new or feeble societies. The association had real estate in Boston, valued at about \$700,000. The report of the secretary represented that while but few new churches had been established, the general condition of the body was very much improved, many churches that had been languishing had been strengthened, and the missionary spirit had been developed, ministers in increasing numbers giving time to missionary service outside of their own pulpits. The American members of the International Council had held several meetings which had contributed largely to the formation of the plans for the series of meetings to be held during the month

in London. Special committees had sat in the compilation of statistics as to the Church covenants and methods of organization existing in the churches, and in the preparation of a handbook of Unitarian administration, and their reports were presented: Report of the Committee to Collect and Codify the Covenants and Statements of Faith in Use in Unitarian Churches and the Handbook for Unitarian Congregational Churches. Satisfactory reports had been received from the mission in Japan, which had been wholly entrusted to the care of the Japanese themselves. A closer cooperation of the association and the National Alliance of Unitarian Women had been effected by the appointment of a Committee of Conference between the two bodies. For the avoidance of conflict and waste of missionary energies, a special representative of the association had been appointed in every State, the previously elected secretary of the local conference being usually designated to that service. Ten new societies had been established during the year, 15 dormant societies had been revived, and a number

of new movements contemplating the formation of churches were mentioned. The printing of 262,400 old tracts had been authorized, and the manuscripts of 35 new tracts had been accepted by the Publication Committee. In the resolutions passed by the meeting, the stronger churches were asked to put their ministers at the service of the association for missionary work for a certain number of Sundays in each year. It was declared "that our churches will be untrue to their faith if they are not at the front in every community where they are organized, in all movements for honest and unpartizan government, for the best methods in education, for more just distribution of wealth, for sympathetic and friendly relations between employers and the employed, for the amelioration of the condition of the poor, for the same rule of purity for men as for women, for checking the enormous and corrupting use of intoxicating drinks, for international arbitration and against the curse of militarism, for genuine democracy and brotherhood." The appointment of a committee was advised, to consider and report upon the condition and progress of unsectarian education in American schools, academies, and colleges, "to the end that Unitarians may know where their sons and daughters may be well educated without compulsory attendance upon sectarian teaching and upon forms of worship hostile to their hard-won birthright."

Meetings of the National Alliance, the Sunday-School Society, the Young People's Religious Union, and the first annual meeting of the Unitarian Historical Society, were held in connection with the meeting of the association.

The nineteenth biennial meeting of the National Conference of Unitarian and other Christian Churches was held at Saratoga, N. Y., Sept. 23 to 26. The Hon. George F. Hoar presided. One hundred and sixteen churches and organizations were officially represented by 332 delegates. During the sessions about 30 papers were read and addresses made on various religious and social topics. A resolution of greeting and sympathy with the International Conference of Unitarian and other Liberal Thinkers and Workers was passed, and the representations of American Unitarians who had attended the meeting of that body in London, in May, reported concerning its proceedings. The Conference determined to raise \$50,000 to build the Edward Everett Hale House at Hackley School, in Tarrytown, N. Y., and advised the raising of a suitable endowment fund for the Prospect Hill School for girls at Greenfield, Mass. Expressing its appreciation of the peculiar importance of the education of the dependent races and of those of the white race whose means are slender, it recommended the industrial schools as exemplified by certain ones which were named as providing a most effective means to the best results. The completion of the gymnasium and dining-hall for Meadville Theological Seminary was recommended. Meetings of the Unitarian Sunday-School Society, the Unitarian Temperance Society, and the Young People's Religious Union were held in connection with the Conference. The Hon. George F. Hoar having resigned the office of president of the Conference, the Hon. Carroll D. Wright, LL. D., was elected to succeed him.

British Unitarians.—The New Century Meetings of the British and Foreign Unitarian Association and the International Council of Unitarian and other Liberal Religious Thinkers and Workers were held in London, May 26 to 31, the meetings connected with the British and Foreign Unitarian Association being held first. The Tem-

perance Association returned 60 local societies affiliated with it. Its name was changed from the Essex Hall Temperance Association to the National Unitarian Temperance Association. The report of the Sunday-School Association (in its sixty-seventh year) took account of nearly 300 Sunday-schools, with more than 30,000 pupils, and a teacher for about every nine pupils. The publishing department of the association yielded a revenue of about £1,230. The report of the postal mission gave account of correspondence which had been conducted with religious inquirers whose attention had been attracted by advertisements.

The seventy-sixth annual meeting of the British and Foreign Unitarian Association was held in London, May 29. The annual report showed that a revenue of £5,000 had accrued; that the grants to efforts at home and abroad amounted to nearly £3,000, and the book department was answerable for nearly £1,000 more. The "McQuaker fund," derived from the legacy of Mr. W. McQuaker, of Glasgow, and devoted to Scottish work alone, was applied to the diffusion of literature among orthodox ministers. The missionary to India, the Rev. S. F. Williams, had been busy in lecturing to university students and others. A resolution was passed declaring that no amendment or reconstruction of the education acts can be just or satisfactory which fails to provide for an effective elective control in the management of schools and the appointment of teachers, and that training-colleges should be established under public management free from all ecclesiastical or theological tests.

A scheme was organized during the meetings for a ministerial superannuation fund. It was resolved to appeal for a fund of £20,000, and an additional income of several hundred pounds a year to provide a fund for assisted life insurance.

A plan was adopted for the federation of the Young People's Societies of the denomination into an association to be called the National Conference Guilds Union.

The International Council.—The International Council of Unitarian and other Liberal Thinkers was called into being at the American Unitarian meetings of 1900, in Boston, Mass. Prof. J. Estlin Carpenter presided at the first stated meeting, which was held in London, May 30, and delivered the opening address. In it he defined the task of the Council to be "to disengage from the apparent confusion of modern investigations the facts which tend to support the great spiritual ideal which underlies the noblest forms of religion." The foreign delegations, representing 15 nationalities and 18 denominations, were then introduced, and made their responses. They included Unitarians from France, Holland, Germany, Belgium, Denmark, Iceland, Russia, Switzerland, Italy, Hungary, India, the United States, etc. Addresses were made on The Sympathy of Religions, by Dr. S. M. Crothers, of Boston, Mass.; The Origin and Purpose of the International Council, by the Rev. C. W. Wendte, of Boston; The Contributions of France to Religious Progress, by the Rev. Ernest Fontanes; The Struggle with Catholicism in Belgium, by Pastor J. Hocart; The Liberal Mennonites of Holland, by the Rev. F. C. Fleischer; The Thoughts and Experiences of a Liberal Religious Thinker and Worker in Russia, by Mr. V. Tchertkoff; The Spiritual Factor in the Materialism of our Time, by Principal Drummond, of Manchester College, Oxford; The Work of Liberalism in Catholic Countries, by M. Jean Reville; The Kind of a Church Wanted, by the Rev. Dr. Crothers; The Opportunities of the Young in the New Century,

by the Rev. Joseph Wood and the Rev. C. W. Wendte; *The Outlook*, by the Rev. W. C. Bowie; *Religious Thought in England at the Close of the Nineteenth Century*, by the Rev. E. A. Armstrong; *Liberal Thought Within the Dutch Reformed Churches*, by Prof. Eerdman, of Leyden; *Switzerland Three Centuries after Calvin*, by Prof. Montet, of Geneva; *The Movement in Catholic France*, by Prof. Bonet-Maury; *The Religious Crisis of our Age*, by Prof. Fliedner, of Berlin; *Wordsworth's Ideals and the Nineteenth Century*, by the Rev. P. H. Wickersteed; *The Liberal Movement in Italy*, by the Rev. Tony Andre; *The Position of Religious Parties in Hungary*, by Prof. G. Boros; *Hungarian Folk-Lore*, by the Rev. N. Jozan; and *Church and State in America*, by the Rev. C. W. Wendte.

UNITED BRETHREN CHURCH. I. The following is a summary of the statistics of the United Brethren Church for 1900, as officially published in its Year-Book: Number of annual conferences, 45, with 3 mission districts; of organized churches, 4,251; of bishops, 4; of itinerant ministers, 1,955; of local preachers, 438; of members, 244,667; of Sunday-schools, 3,564, with 35,996 officers and teachers and 260,333 pupils; of Young People's Christian Union Societies, 1,632, with 64,965 members; of church-houses, 3,298, having an estimated value of \$5,908,178; of parsonages, 768, valued at \$779,153; amount of contributions for all purposes, \$1,550,447, of which \$84,777 were for missions (\$16,402 for woman's missions), \$17,546 for church erection, \$2,193 for beneficiary education, \$30,656 for colleges, academies, and the seminary, \$5,058 for preachers' aid, \$690,650 for preachers' salaries, and \$8,435 for the support of the bishops.

The trustees of the publishing house returned cash receipts for the year of \$241,817, profits of \$22,527, and a valuation of assets of \$303,180. The profits for three years and nine months had been \$83,087. The institution had been freed from interest-bearing debt.

The Sunday-School Board returned a balance of \$1,500 in its treasury, and reported concerning the distribution of \$193 of Sunday-school literature to needy city mission Sunday-schools in the United States and foreign countries. It had expended \$12,646 in the past four years.

The Board of Education had aided 66 licentiates, with an expenditure of \$4,695. Several colleges had reduced or canceled their debts. The board reported to the General Conference that an increase in the beneficiary work had taken place during the past four years, that the receipts for that time had been \$17,007, and the expenditures \$16,002, while the fund had been increased by \$7,360. More than \$48,000 had been raised for the Beneficiary Educational fund since its founding, and 374 students had been aided at 10 schools and in Germany. The schools (1 theological school, 8 colleges and universities, and 4 academies and seminaries) returned 144 teachers and 2,661 students, 26 buildings, and property valued at \$900,929. A training-school in Africa had 3 teachers and 18 students, and other African schools 6 teachers and 393 students.

The Church Erection Society reported \$10,631 collected from 62 churches, 22 mortgages lifted from off church-houses, and \$13,309 of new funds secured, which, with the loans collected, made an aggregate of \$23,940 of receipts. Loans had been made of \$26,750 to 38 churches, and \$1,350 to 5 parsonages. During the past four years the Permanent fund had increased from \$45,157 to \$66,508. The cases aided during that period represented property valued at more than \$300,000.

Since the organization of the board, 338 churches and 5 parsonages had been aided, securing more than \$1,000,000 of property to the denomination.

The total receipts of the Missionary Society for the year had been \$91,764, while \$21,231 had been expended upon the foreign field and a total amount of \$85,878 had been paid out for all purposes. The debt had been reduced to \$19,846. The board reported to the General Conference that in the four years past 36 new missions had been opened in the home department, 69 churches organized, and 49 new churches and 21 parsonages erected. The mission work in Germany comprised 11 charges, 26 classes, 20 organized churches, 12 ministers, 1,013 members, and 9 church buildings. The work in West Africa, which had had to be restored after the disturbances that had prevailed, included 7 charges, 122 appointments, 358 pupils in Sunday-schools and 393 in day-schools, an annual attendance of 50,502 at preaching services and 13,785 at class-meetings, and buildings valued at \$17,000. A well-organized and efficient mission was sustained in Japan, and a congregation had been organized in Ponce, Porto Rico. The missionary income for the past four years to the general and the conference treasuries had been \$219,390. The income from thank-offerings and the Twentieth Century fund had been \$15,977. The Woman's Missionary Association had received \$25,869 and expended \$18,224 during the year.

The General Conference met in Frederick City, Md., May 9. The occasion marking the centenary of the denomination, the place of its origin was chosen for holding the anniversary General Conference. Special centennial services were held, at which addresses were delivered on the history and life of the denomination, including one on Philip William Otterbein and his collaborators in founding the church, and special pilgrimages were made to sites in Frederick City and Baltimore associated with its beginnings, where other memorial addresses were made. Among the acts of the General Conference was the adoption of a measure providing for equal ministerial and lay delegation in the body on a scale rising from 1 representative of each order, to be sent by conferences having less than 1,000 members, to 7 ministerial and 7 lay delegates from conferences having 20,000 members or more. The course of ministerial study was revised. Provision was made for an old people's home and an orphanage. Legislation relative to deaconesses included the designation of a course of study, directions concerning the manner of appointment of deaconesses and their ordination, the definition of their duties, and regulations for the establishment of deaconess homes. Bishop J. S. Mills, E. B. Kephart, J. W. Hott, and N. Castle were reelected for the ensuing term of four years.

II. United Brethren in Christ (Old Constitution).—The following is a summary of the statistics of the United Brethren Church, Old Constitution, as given in its Calendar and Year-Book for 1901: Number of annual conferences, 31; of conference appointments, 985; of organized churches, 817; of itinerant ministers, 471; of local preachers, 199; of members, 26,643; of Sunday-schools, 594, with 5,197 officers and teachers and 31,297 pupils; of churches, 479, having an estimated value of \$508,043; of parsonages, 71, valued at \$42,425. Twenty-seven new churches were built in 1900, at a cost of \$24,706. Whole amount of contributions, \$148,079, of which \$12,429 were for missions (\$2,874 for woman's missions), \$2,436 for education, \$480 for church erection, \$603 for preachers' aid, \$64,367 for salaries of

preachers and presiding elders, and \$2,663 for the bishops. The Church has 4 bishops, a publishing house at Huntington, Ind., where a weekly journal, a monthly missionary magazine, and Sunday-school periodicals and helps are published, and Central College, at Huntington, Ind. The Home, Frontier, and Foreign Missionary Society and the Woman's Missionary Association sustain home missions at about 100 stations, frontier missions in 12 mission conferences, with more than 100 preaching places, and a foreign mission in Africa. The business of the Church Election Society is managed by the Board of Missions. A permanent fund of about \$8,000 has been secured.

The General Conference, held at Chambersburg, Pa., in May, was attended by about 65 delegates from the annual conferences in the United States and Ontario, and by the superintendent of the mission in the Imperi country, West Africa. The division of the United Brethren arose out of the action of the General Conference of 1889 (see the Annual Cyclopaedia for 1889) in adopting a new constitution and a revised Confession of Faith in a manner which a dissenting minority held to be invalid in consequence of failure to observe precisely the steps prescribed in the constitution of the Church. This minority withdrew and organized themselves as the real General Conference, claiming to represent the true United Brethren Church. Several lawsuits have arisen over disputes concerning titles to property, but no decision has been rendered as yet which is accepted as final. The United Brethren of the Old Constitution affirm that the number of their adherents is much larger than the statistical tables appear to show, many of them being isolated in communities where the majority branch controls the churches. Reports made to the General Conference show that of the \$1,000,000 of property held by the Church, nine-tenths have been accumulated since the division in 1889. The only debt is a comparatively small one on the publishing establishment. Besides the college at Huntington, Ind., educational institutions have been established in Oregon and Washington. A surplus was returned in the treasury of the Foreign Missionary Society. Endowment funds to different institutions were being sent in liberally, and interest in church enterprises was growing.

UNITED STATES OF AMERICA, a federal republic in North America. The legislative power is vested in the Congress, consisting of the Senate and the House of Representatives. There are 90 Senators, 2 from each State, elected by the State Legislatures for six years, one-third being renewed every second year. The House of Representatives has 357 members, elected for two years by the ballots of all qualified voters in the congressional districts of each State, in most States by universal adult male suffrage. The executive power is vested in the President, who is commander-in-chief of the military and naval forces, can lay before Congress projects of legislation, is empowered to make treaties, subject to the ratifying vote of the Senate, has the power of veto over acts of Congress, which can be overcome by a vote of two-thirds of each house, commissions the officers of the army and navy, and appoints the civil officials of the Government, subject to confirmation by the Senate. The Vice-President is President of the Senate, and in case of the death, resignation, or removal of the President, he succeeds the latter for the remainder of the term. In case of the death or disability of both President and Vice-President, the Secretary of State becomes acting President, and after him

other members of the Cabinet in their order. The Senate, sitting as a high court, can remove the President or members of the Cabinet on articles of impeachment presented by the House of Representatives. The President and Vice-President are chosen by a college of electors, who are chosen in each State in the manner that the Legislature prescribes, which is in every State by popular suffrage, their number being equal to the sum of the Senators and Representatives of the State in Congress. It has become the custom of political parties to nominate in national convention their candidates for the presidency and vice-presidency, and the electors, chosen in each State on a collective ticket, are accustomed to vote solidly for the candidates designated by their parties beforehand. Thus the election of the President and Vice-President has come to be in reality, though not in form, by the direct vote of the nation. The term of the presidency is four years. Elections are held on the Tuesday following the first Monday in November of every leap year. The President-elect is sworn into office by the Chief Justice of the Supreme Court on March 4 of the year succeeding his election. The President for the term ending March 4, 1905, was William McKinley, of Ohio, elected in 1900 for the second time. The Vice-President was Theodore Roosevelt, of New York. The following were the members of the President's Cabinet at the beginning of 1901: Secretary of State, John Hay, of the District of Columbia; Secretary of the Treasury, Lyman J. Gage, of Illinois; Secretary of War, Elihu Root, of New York; Secretary of the Navy, John Davis Long, of Massachusetts; Postmaster-General, C. Emory Smith, of Pennsylvania; Secretary of the Interior, Ethan Allen Hitchcock, of Missouri; Secretary of Agriculture, James Wilson, of Iowa; Attorney-General, John William Griggs, of New Jersey.

On Sept. 6, while holding a public reception in the Temple of Music of the Pan-American Exposition at Buffalo, President McKinley was shot by an anarchist, who had concealed a revolver in a handkerchief wound round his hand like a bandage and fired two shots before he was seized. One bullet glanced off from the breast-bone; the other penetrated the abdomen. On Sept. 14 Mr. McKinley died from gangrene poisoning, which started from the wound in the stomach. Vice-President Roosevelt, who had hastened to Buffalo when the President was shot, and left for the Adirondack mountains when he was pronounced out of danger, returned and was sworn in as President the same day. The assassin was convicted of murder on Sept. 26, his trial lasting three days, and was executed in Auburn prison on Oct. 29. Mr. Roosevelt announced that he would follow out the policy which President McKinley had pursued for the good of the country, and he requested the members of the Cabinet to remain in office. No change in the Cabinet occurred until Charles Emory Smith, on Dec. 27, resigned his post. President Roosevelt at once appointed Henry C. Payne, of Wisconsin, to succeed him as Postmaster-General.

Area and Population.—The land area of the States and Territories is 2,939,000 square miles, exclusive of 31,000 square miles in the Indian Territory and of Alaska, which has about 531,000 square miles, and Hawaii, the area of which is 6,640 square miles, making the total area 3,507,640 square miles, exclusive of Porto Rico, which has an area of 3,600 square miles, and of the Philippine and Sulu Islands, with an area of 11,400 square miles, Guam, with an area of 200 square miles, and Tutuila and the smaller islands of the

Samoan group belonging to the United States, whose area is 79 square miles.

The urban population, counting only inhabitants of cities of 25,000 or over, increased from 14,855,489 in 1890 to 19,694,625 in 1900. Cities of 200,000 population or over numbered 16 in 1890, when Brooklyn and New York were separate cities, and 19 in 1900, although these two cities were merged into one, and the combined population of cities of this class increased from 8,879,105 to 11,795,809; cities of 100,000 to 200,000 increased in number from 12 to 19, and their population from 1,808,656 to 2,412,538; cities of 50,000, to 100,000 increased from 30, with 2,067,169 inhabitants, to 40, with 2,709,338; and cities between 25,000 and 50,000 increased from 66, with 2,100,559 inhabitants, to 81, with 2,776,940 inhabitants. The population of the principal cities in 1900 was: New York, 3,437,202; Chicago, 1,698,575; Philadelphia, 1,293,697; St. Louis, 575,238; Boston, 560,892; Baltimore, 508,957; Cleveland, 381,768; Buffalo, 352,219; San Francisco, 342,782; Cincinnati, 325,902; Pittsburg, 321,616; New Orleans, 287,104; Detroit, 285,704; Milwaukee, 285,315; Washington, 278,718; Newark, 246,070; Jersey City, 206,433; Louisville, 204,731; Minneapolis, 202,718; Providence, 175,597; Indianapolis, 169,164; Kansas City, 163,752; St. Paul, 163,632; Rochester, 162,435; Denver, 138,859; Toledo, 131,822; Allegheny, 129,896; Columbus, 125,560; Syracuse, 108,374; Paterson, 105,171; Omaha, 102,555; Scranton, 102,026; Albany, 94,151; Portland, 90,426; Atlanta, 89,872; Dayton, 85,333; Richmond, 85,050; Nashville, 80,865; Hartford, 79,850; Wilmington, 76,508; Trenton, 73,307; Bridgeport, 70,996; Oakland, 66,960; Hoboken, 59,364; Evansville, 59,007; Manchester, 56,987; Peoria, 56,100; Charleston, 55,807; Salt Lake City, 53,531; Wilkesbarre, 51,721.

Immigration.—The number of immigrants who arrived in the United States during the year ending June 30, 1901, was 487,918, of whom 135,996 came from Italy, 113,390 from Austria-Hungary, 85,257 from Russia and Finland, 30,561 from Ireland, 23,331 from Sweden, 21,651 from Germany, 12,248 from Norway, 12,214 from England, 7,155 from Roumania, 5,910 from Greece, 5,782 from Turkey in Asia, 5,269 from Japan, 4,165 from Portugal and the Cape Verde and Azore islands, 3,655 from Denmark, 3,176 from the West Indies, 3,150 from France and Corsica, 2,459 from China, 2,349 from the Netherlands, 2,201 from Switzerland, 2,070 from Scotland, 1,579 from Belgium, 701 from Wales, 657 from Servia, Bulgaria, and Montenegro, 592 from Spain and the Canary and Balearic islands, 540 from British North America, 387 from Turkey in Europe, 347 from Mexico, 325 from Australia, Tasmania, and New Zealand, 203 from South America, 173 from Africa, 140 from the Philippine Islands, 130 from Central American republics, 27 from Pacific islands, 22 from India, 20 from British Honduras, 6 from Hawaii, and 80 from other countries. The total immigration into the United States from 1820 to the end of 1901 was 20,253,073, and from 1789 to 1820 the number is estimated to have been 250,000. Of the immigrants who arrived in 1901, the number who came through the port of New York was 388,931; through Baltimore, 17,216; through Boston, 25,616; through Philadelphia, 13,236; through San Francisco, 3,655; through other ports, 39,264. Of the total number, 161,938 were laborers, 3,035 farmers, 42,027 domestic servants, 6,508 carpenters, 3,629 miners, 3,108 clerks, 9,609 tailors, 5,451 shoemakers, 2,613 blacksmiths, 2,192 bakers, 4,232 seamstresses and dressmakers, 3,414 masons, 4,695 sailors, 6,589 merchants, dealers, and gro-

cers, and 2,665 professional persons. The number having miscellaneous occupations was 272,064; of no occupation, including dependent women and children, 148,686; occupation not stated, 3,469.

Education.—The public schools of the United States in 1900 had 15,341,220 pupils enrolled, being 20.38 per cent. of the total population, and 10,513,518 in average daily attendance. The number of teachers was 421,288. In public primary and grammar-schools there were 14,821,969 pupils, and in private schools of the same grades 1,240,925 pupils, making a total of 16,062,894 children attending elementary schools. In public high schools and academies the number of pupils was 530,425, and in private academies 188,816, making the total number in secondary schools 719,241. City evening schools were attended by about 190,000 persons. In public normal schools there were 47,421, and in private normal schools 22,179 pupils; total in normal schools, 69,593. Private business schools and colleges had 91,549 students. The public universities and colleges had 34,177 students, and private universities and colleges had 76,735; total number of students, 110,912. There were 480 universities and colleges in the United States, having 12,664 male and 1,816 female professors and instructors and 124,365 male and 36,856 female students, of whom 32,399 males and 15,259 females were in the preparatory departments, 57,886 males and 19,199 females in the collegiate departments, 4,756 males and 1,377 females in the graduate departments, and 29,324 males and 1,021 females in the professional departments. The income of all the institutions was \$20,836,488, of which \$8,375,793 came from tuition fees, \$6,110,653 from productive funds, and \$4,386,040 from Government, State, or municipal appropriations. The number of bound volumes in the libraries was 7,876,073; value of scientific apparatus, \$15,136,181; value of grounds and buildings, \$136,336,871; productive funds, \$147,385,821; benefactions, \$10,840,084. The number of students in public professional schools in 1900 was 9,470, and in private professional schools 48,600; total, 58,070. There were 154 theological schools, with 994 professors and 8,009 students; 96 law schools, with 1,004 professors and 12,516 students; 121 medical colleges of the regular school, with 3,545 professors and 22,752 students; 22 homeopathic colleges, with 735 professors and 1,909 students; 54 dental schools, with 1,118 professors and 7,928 students; 53 schools of pharmacy, with 493 professors and 4,042 students; 432 training-schools for nurses, with 11,164 students; and 13 veterinary schools, with 124 professors and 362 students. The Government Indian schools had 21,568 pupils and the schools of the 5 civilized tribes had 10,499. In Alaska, the Government had schools with 1,753 pupils. In private kindergarten schools were about 95,000 pupils. The schools for art, music, etc., had about 50,000. In orphan asylums and other benevolent institutions about 15,000 children were taught. The number in the public reform schools was 23,901. In public deaf-and-dumb schools there were 10,563, and in private schools 478 pupils; in public schools for the blind there were 4,021; in public schools for the feeble-minded there were 9,762, and in private asylums 425 pupils.

The Army.—The United States army in September, 1901, consisted of 84,513 officers and men, of whom 33,874 were in the United States, 43,239 in the Philippines, 4,914 in Cuba, 1,541 in Porto Rico, 256 in the Hawaiian Islands, 527 in Alaska, and 162 in China. During the three years ending June 30, 1901, there served in the Philippine Islands 3,477 officers and 108,800 enlisted men, of whom

61,275 officers and men were regulars and 50,002 volunteers. Of the total number, 619 were killed in action and 219 died of wounds. The total percentage of deaths was less than 3.5, and that of desertions 4.3 per cent. The number of non-commissioned officers who received commissions was 200. Of the soldiers mustered out 81 per cent. made no claim for injuries received in the service, and out of 4,168 claims only 485 were allowed, of which 83 were found to be based on injuries not received in the service. The claims allowed amounted to only 3 per cent. of the total number of enlistments. Of the soldiers in the Philippines on Sept. 23, 1901, about half were enlisted for terms that expire before July, 1902. Adjutant-Gen. Corbin recommended the gradual withdrawal of many of the troops in the islands, but the recrudescence of rebellion in Samar and other parts of the archipelago convinced Gen. Chaffee, commander-in-chief of the military division of the Philippines, that the strength of the army there must not yet be reduced. The total number of enlistments and reenlistments during 1901 was 30,622, of which 26,267 were of native-born Americans, 378 of Porto Ricans, and 3,977 of aliens. Of the applicants for enlistment, 74 per cent. were rejected.

Lieut.-Gen. Nelson A. Miles was in chief command under the President of the United States army in 1901. The department of the Philippines was created into a division in 1901, under the command of Major-Gen. Adna R. Chaffee. Major-Gen. Loyd Wheaton commanded the department of the north Philippines, embracing all that portion of the archipelago lying north of a line passing southeastwardly through the west pass of Apo, or Mindoro Strait, to 12° of north latitude, thence east along that parallel to 124° 10' east of Greenwich, but including the whole of Masbate island; thence north to San Bernardino straits. The department of the south Philippines, consisting of all the islands lying south of that line, was commanded by Brig.-Gen. James F. Wade. Major-Gen. S. B. M. Young was in command of the department of California, embracing California, Nevada, and the Hawaiian Islands; Col. J. M. J. Sanno commanded the department of Colorado, embracing Colorado, Utah, and the Territories of Arizona and New Mexico; Brig.-Gen. G. M. Randall commanded the department of the Columbia, embracing Washington, Oregon, Idaho, and the Territory of Alaska; Brig.-Gen. Leonard Wood commanded the department of Cuba; Major-Gen. J. R. Brooke commanded the department of the East, embracing the New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Porto Rico; Major-Gen. Elwell S. Otis commanded the department of the Lakes, embracing Wisconsin, Michigan, Illinois, Indiana, Ohio, Kentucky, and Tennessee; Brig.-Gen. J. C. Bates commanded the department of the Missouri, embracing Iowa, Nebraska, Missouri, Kansas, Arkansas, the Indian Territory, and the Territory of Oklahoma; and Col. J. N. Whealan commanded the department of Texas, embracing the State of Texas. The officers attached to the War Department were Major-Gen. Henry C. Corbin, Adjutant-General; Brig.-Gen. Joseph C. Breckinridge, Inspector-General; Brig.-Gen. M. L. Ludington, Quartermaster-General; Brig.-Gen. John F. Weston, Commissary-General of Subsistence; Brig.-Gen. George M. Sternberg, Surgeon-General; Brig.-Gen. A. E. Bates, Paymaster-General; Brig.-Gen. George L. Gillespie,

Chief of Engineers; Brig.-Gen. William Crozier, Chief of Ordnance; Brig.-Gen. George W. Davis, Chief Advocate-General; Brig.-Gen. Adolphus W. Greely, Chief Signal Officer; Brig.-Gen. F. C. Ainsworth, Chief Record and Pension Officer; Col. T. A. Bingham, Superintendent of Buildings. The general officers on regular service are Lieut.-Gen. Nelson A. Miles; Major-Gens. John R. Brooke, Elwell S. Otis, Samuel B. M. Young, Adna R. Chaffee, Arthur MacArthur, and Loyd Wheaton, and Brig.-Gens. James F. Wade, John C. Bates, George W. Davis, Samuel S. Sumner, Leonard Wood, Robert P. Hughes, George M. Randall, William A. Kobbé, Frederick D. Grant, J. Franklin Bell, Frederick Funston, and W. H. Bisbee. The regular army is recruited by enlistment for three years. It is composed of 30 regiments of infantry, including 2 negro regiments, each regiment containing 3 battalions of 4 companies; 15 regiments of cavalry, including 2 negro regiments, each regiment containing 3 sections, each having 4 troops of 100 men; 1 corps of artillery containing 156 batteries, of which 30 are mounted, mounted batteries of 6 3.2-inch breech-loading guns, having 162 men, the others 109 men; 3 battalions of engineers; a hospital corps; a detachment of mechanics; and the detachment of the United States Military Academy. The infantry weapon is the Krag-Jørgensen repeating rifle of the model of 1892, with a caliber of 7.62 millimeters, or the Lee model of 1893. The cavalry carry sabers, Krag-Jørgensen carbines of 7.62 caliber, and Colt revolvers. The army in 1900 consisted of 863 officers of the general staff, including 129 engineer officers, 11 officers of the signal corps, and 192 officers of the medical department; 1,420 men attached to the staff, including 250 serving at the Military Academy, 700 of the mechanical detachment, 100 commissary sergeants, 105 telegraphist sergeants, 75 electrician sergeants, and 863 on recruiting service; 1,530 officers and 55,080 men in 360 companies of infantry; 765 officers and 18,540 men in 180 troops of cavalry; 663 officers and 18,920 men in 126 battalions of foot-artillery and 30 mounted batteries; 2,002 men in 12 companies of engineers; 760 men attached to the signal service; 3,203 men in the hospital service; and 75 Indian scouts, making a total of 3,821 officers and 100,000 enlisted men.

Every male citizen of the United States between the ages of eighteen and forty-five is by law a member of the militia of his State. The organized militia of the several States is composed of men who join voluntarily, and these are obliged to drill, usually weekly in the armories, and sometimes to go into camp annually, and are liable to be called into service by the Governor for the suppression of internal disturbances or in any military emergency. The State of New York in 1901 had enrolled in the National Guard 14,410 men, besides 650 in the naval militia; Pennsylvania, 9,387 men, besides 109 in the naval militia; Illinois, 6,690 men, besides 59 in the naval militia; Massachusetts, 6,249 men, besides 536 in the naval militia; Indiana, 4,140 men; New Jersey, 4,017 men, besides 361 in the naval militia; California, 3,732 men, besides 405 in the naval militia; Michigan, 3,061 men, besides 225 in the naval militia; Alabama, about 3,000 men; Texas, about 3,000 men; Ohio, 1 division; Mississippi, 1 division; Wisconsin, 2,758 men; Connecticut, 2,688 men, besides 211 in the naval militia; Iowa, 2,475 men; Virginia, 2,400 men; Missouri, 2,460 men; South Carolina, 2,173 men, besides 224 in the naval militia; Minnesota, 2,079 men; New Hampshire, 1 brigade; West Virginia, about 2,000 men;

North Caroline, 1,800 men, besides 246 in the naval militia; Kentucky, 1,800 men; Louisiana, 1,794 men, besides 352 in the naval militia; Nebraska, 1,541 men; Tennessee, 1,500 men; Oregon, 1,497 men; Maine, 1,316 men, besides 49 in the naval militia; Kansas, 1,271 men; Florida, 1,247 men, besides 154 in the naval militia; Rhode Island, 1,242 men, besides 193 in the naval militia; Colorado, 1,170 men; Arkansas, 1,080 men; Washington, about 1,000 men; Oklahoma, about 1,000 men; Arizona, 1 regiment; Vermont, 756 men; South Dakota, 711 men; North Dakota, 692 men; Utah, 500 men; Idaho, 500 men; New Mexico, 500 men; Wyoming, 1 battalion; Delaware, 384 men; Montana, 325 men; Nevada, 148 men; Georgia, 128 naval militia. The total numerical strength of the organized militia in 1900 was 8,246 officers and 113,967 men. The total fighting strength of the United States, including all able-bodied men within the military ages, exceeds 10,000,000 men.

The Navy.—The vessels of the new navy have been built since 1892. All the battle-ships except the Texas, of 6,315 tons, the oldest of them, are of the first class, having a displacement of over 10,000 tons and a speed of over 15½ knots, carrying in their turrets 12-inch or 13-inch guns, and having 11-inch Krupp armor on the newest ones, 16½-inch Harvey armor on those launched in 1898, and 18-inch armor on the earliest large ships, launched in 1893. These are the Oregon, of 11,000 tons, and the Indiana and Iowa, of 10,810 tons, each carrying 4 13-inch, 8 8-inch, 4 6-inch quick-firing, and 20 6-pounder quick-firing guns. Their speed varies from 15.6 to 16.8 knots. The Iowa, launched in 1896, has 14-inch armor, a displacement of 11,340 tons, a speed of 17.1 knots with engines of 12,105 horse-power, and an armament of 4 12-inch, 4 8-inch, 6 4-inch quick-firers, and 20 6-pounders. The Kearsarge and Kentucky, of 11,525 tons, can steam 17 knots, and are armed with 4 13-inch, 4 8-inch, 14 5-inch quick-firing guns, and 20 6-pounders. The Alabama, Illinois, and Wisconsin, having a displacement of 11,565 tons, engines of 11,500 horse-power in the last and somewhat less in the others, giving an estimated speed of 17 knots and over, carry, besides the 4 13-inch breech-loading guns, 14 6-inch and 16 6-pounder quick-firers. The new Maine, launched July 27, 1901, has a displacement of 12,300 tons, and will be fitted with engines of 16,000 horse-power, capable of making 18 knots with twin propellers, with bunker capacity for 2,000 tons of coal. The length of the vessel is 388 feet, with a breadth of 72 feet 2 inches and a draft of 25 feet 6 inches. The vital parts are protected with Krupp armor tapering from a thickness of 11 inches above the water-line to 7 inches 3¼ feet below it; the barbettes and turrets have 12-inch, the casemates 6-inch armor, and there is a protective deck 2½ inches thick on the armored parts and 3 and 4 inches beyond the armor belt. The armament will consist of 4 12-inch guns in turrets, 16 6-inch quick-firing guns, of which 10 are in broadside casemates and 6 in barbettes fore and aft, 6 3-inch and 8 6-pounder quick-firers, and 9 machine guns. There will be 2 torpedo-tubes, both submerged. The Missouri, of the same size, and the Ohio, of 12,440 tons, are of the same design as the Maine. The Pennsylvania, New Jersey, and Georgia, of 15,000 tons displacement, and the Virginia and Rhode Island, of 14,600 tons, are planned to have engines of 19,000 horse-power and to steam 19 knots an hour, and their armament is to be, besides the 4 12-inch rifles in the turrets, 8 8-inch, 12 6-inch, and 12 14-pounder rapid-fire guns. The Pennsyl-

vania, New Jersey, and Georgia will be sheathed and coppered, as are the new first-class cruisers California, Nebraska, West Virginia, St. Louis, Milwaukee, and Charleston, and all the new second-class cruisers. The first-class cruiser New York, launched in 1891, has a displacement of 8,200 tons, 10 inches of armor over the vital parts, engines of 17,400 horse-power, giving a speed of 21 knots, and a battery of 6 8-inch breech-loaders and 12 4-inch and 8 6-pounder quick-firers. The Columbia and Minneapolis, of 7,375 tons, have 18,510 and 20,860 horse-power engines, making 22.8 and 23.1 knots nominal speed, and an armament of 1 8-inch gun and 2 6-inch, 8 4-inch, and 12 6-pounder quick-firers. The Brooklyn, launched in 1895, has a displacement of 9,215 tons, a speed of 21.9 knots with 18,769 horse-power engines, 8-inch armor, and an armament of 8 8-inch breech-loaders and 12 5-inch and 12 6-pounder quick-firers. The California, Nebraska, West Virginia, Maryland, South Dakota, and Colorado will have a displacement of 13,500 tons, engines of 23,000 horse-power to give a speed of 22 knots, and an armament of 4 8-inch, 14 6-inch, and 18 14-pounder rifles, all quick-firing, with 12 3-pounders, 8 1-pounders, 2 3-inch field, 2 machine, and 6 automatic guns. These vessels will have a complete belt of armor, 8 feet wide, 6 inches at the top, tapering to 5 inches at the bottom. The Charleston, Milwaukee, and St. Louis, of 9,700 tons, will have a belt of 4-inch armor 200 feet long at the water-line and 7½ feet wide, surmounted by another of two-thirds its length, and will be fitted with engines of 21,000 horse-power, to make not less than 22 knots an hour. They will carry 14 6-inch and 18 3-inch rapid-fire rifled cannons, 12 3-pounders, 2 3-inch field, 2 machine, and 8 automatic guns. The protected steel cruisers New Orleans and Albany, launched in 1896 and 1899, have 4,000 tons displacement, a speed of 20½ knots, and an armament of 6 6-inch, 4 4.7-inch, 10 6-pounder, and 8 1-pounder rapid-fire guns. The Chattanooga, Cleveland, Denver, Des Moines, Galveston, and Tacoma, protected cruisers of 3,200 tons, are intended to have a speed of 16½ knots, with engines of 4,700 horse-power, and a cruising radius of 7,000 miles at 10 knots, and to carry 10 5-inch quick-firers, supplemented by 8 6-pounders and 2 1-pounders. New monitors for harbor defense are the Arkansas, Florida, Nevada, and Wyoming, having a displacement of 3,235 tons, a speed of 11½ knots, and an armament of 2 12-inch breech-loading guns, with 4 4-inch, 3 6-pounder, and 5 1-pounder quick-firers. The protected cruisers Columbia and Minneapolis, displacing 7,375 tons, having 3 sets of triple-expansion engines of 20,000 horse-power (or 23,000 with forced draft), made 22.8 and 23 knots on their trial trips. The destroyer Bainbridge, of 420 tons, built in 1899, having 2 tubes for Whitehead torpedoes and 2 14-pounder and 5 6-pounder rapid-fire guns, has a speed of 29 knots. Built on the same model are the Barry, Chauncey, Paul Jones, Macdonough, Perry, Preble, and Stewart. The Dale and Decatur have an estimated speed of 28 knots. The Hopkins has a displacement of 408 tons. The Lawrence, displacing 400 tons, can make 30 knots, and so can the Truxtun and the Whipple and Worden of the same design, having a displacement of 433 tons. The torpedo-boats Bagley, Barney, and Biddle, of 167 tons, carrying 3 3-pounders and fitted with 3 18-inch Whitehead torpedo-tubes, can go 28 knots. The Blakeley, De Long, Shubrick, Stockton, Thornton, and Tingey, of the same size, are designed to make 26 knots; the Wilkes, 26½ knots; the Bailey, of 235 tons, has 4 6-pounders and only 2 torpedo-tubes.

and can make 30 knots. The Dahlgren, of 146 tons, has 4 1-pounders and 2 tubes, and can make 30½ knots. The Farragut, of 279 tons, armed like the Bailey, can make 30 knots, and so can the Goldsborough, of 247½ tons. The Craven, of 146 tons, with the same armament as the Dahlgren, can steam 30½ knots. The Du Pont, of 165 tons, carrying 4 1-pounders and 3 torpedo-tubes, has a speed of 27½ knots; and the Rowan, of 182 tons, makes 26 knots. The Nicholson and O'Brien, of 174 tons, are armed like the Bagley and have a speed of 26 knots. The Davis, of 154 tons, carrying 3 1-pounders and 3 torpedo-tubes, makes 22½ knots; but the Foote, of 142 tons, makes 24½ knots with the same armament; the Fox, of 154 tons, 23 knots; the Morris, of 105 tons, 24 knots; the Rodgers and the Winslow, of 142 tons, 24½ knots. The earlier Cushing, of 105 tons, has a speed of 22½ knots, with an armament of 3 1-pounders and 3 torpedo-tubes. The Stringham, built in 1899, has a displacement of 340 tons, being designed to carry 7 6-pounder quick-firers with 2 torpedo-tubes and to steam 30 knots. The small torpedo-boats have a single 1-pounder quick-firer and 2 tubes, as the Gwin, of 46 tons, steaming 20 knots; the Talbot, of 46½ tons, going a knot better; and the Mackenzie and McKee, of 65 tons, with a speed of 20 knots. The submarine boats Adder, Grampus, Moccasin, Pike, Plunger, Porpoise, and Shark, of 120 tons, are designed to carry 1 torpedo-tube and to go 8 knots an hour. The Holland, of 74 tons, has that speed under water. The Holland submarine boat Fulton was tested on Nov. 24 by Rear-Admiral John Lowe, who remained with comfort beneath the surface of the water for fifteen hours and reported that type of boat to be seaworthy and manageable.

By the law of March 3, 1899, the executive and engineering branches of the navy were amalgamated. The *personnel* of the navy was expanded from 12,500 men and 1,500 apprentices to 17,500 men and 2,500 apprentices, and the number of officers to 18 rear-admirals, 70 captains, 112 commanders, 170 lieutenant-commanders, 300 lieutenants, 350 junior lieutenants and ensigns. Subsequently it was further expanded, and on July 1, 1901, consisted of 21 rear-admirals, 72 captains, 115 commanders, 172 lieutenant-commanders, 304 lieutenants, 104 junior lieutenants, 126 ensigns, 126 cadets, 190 medical directors, inspectors, and surgeons, 136 pay directors, pay inspectors, paymasters and assistant paymasters, 24 chaplains, 11 professors, 41 constructors, 21 civil engineers, 18 chief boatswains, 73 boatswains, 14 chief gunners, 71 gunners, 16 chief carpenters, 46 carpenters, 10 chief sailmakers, 100 machinists, 25 pharmacists, 8 mates, 19,049 seamen, and in the corps of marines 199 officers and 5,544 men; total, 26,659 officers and men. The marines are armed with straight-pull Lee rifles of 6 millimeters bore. Admiral George Dewey is commanding officer of the navy, and the rear-admirals in active service in 1901 were John A. Howell, George C. Remey, Norman H. Farquhar, John C. Watson, Silas Casey, William T. Sampson, Bartlett J. Cromwell, Francis J. Higginson, Frederick Rodgers, Louis Kempff, George W. Sumner, Albert S. Barker, Charles S. Cotton, Robley D. Evans, Silas W. Terry, Merrill Miller, John J. Read, Henry C. Taylor, Mortimer L. Johnson, Edwin M. Shepard, Frank Wildes, and Henry Glass. The officers in charge of the different bureaus of the Navy Department were: Capt. A. S. Crowninshield, Navigation; Capt. Royal B. Bradford, Equipment; Capt. Charles O'Neil, Ordnance; Surgeon-General W. K. Van Reypen, Medicine; Pay-Director Albert S. Kenney, Supplies and Accounts; En-

gineer-in-Chief George W. Melville, Construction; Civil-Engineer Mordecai T. Endicott, Yards and Docks; Lieut.-Commander Samuel C. Lemly, Judge-Advocate-General; Capt. Charles D. Sigbee, Naval Intelligence.

Pensions.—The number of army and navy pensioners on the rolls on June 30, 1901, was 997,735, of whom 4 were widows of soldiers of the Revolution, 5 daughters of Revolutionary soldiers, 1 a survivor of the War of 1812, 1,527 widows of soldiers of the War of 1812, 1,086 survivors of the Indian wars from 1832 to 1842, 3,479 widows of soldiers of the Indian wars, 7,568 survivors of the Mexican War, 8,109 widows of soldiers of the Mexican War, 293,186 army invalid pensioners of the civil war, 83,504 widows and minor children of soldiers of the civil war, 4,480 naval invalid pensioners of the civil war, 2,298 widows and minor children of sailors of the civil war, 650 army nurses, 422,481 army invalid pensioners of the civil war under the act of June 27, 1890, 138,490 widows and minor children of soldiers receiving pensions under that act, 15,633 navy invalid pensioners under the same act, 6,621 widows and minor children of sailors receiving pensions under the act, 3,344 army invalids of the Spanish War, 1,981 widows of soldiers of the Spanish War, 211 navy invalids of the Spanish War, and 68 widows of sailors of the Spanish War. There were added to the rolls during the year 44,225 new pensioners, and the number restored to the rolls was 3,567, making an addition of 47,792 names, while 43,586 were dropped from the rolls, showing a net increase of 4,206 pensioners since June 30, 1900. The total sum paid out in pensions was \$138,531,483. The number of invalid army pensioners under the general law decreased 12,794; the number of army widows decreased 1,961; navy invalids, 133; navy widows, 16; nurses increased 4. Under the act of June 27, 1891, there was an increase of 7,216 in army invalids, 9,078 in army widows and dependents, 241 in navy invalids, and 307 in navy widows. The number of applications filed during 1901 was 58,373; number of claims allowed, 44,868.

Public Lands.—The aggregate area of public lands subject to entry and settlement on July 1, 1901, was 914,096,974 acres, including 367,983,506 acres unsurveyed in Alaska. The other lands, which do not include military and Indian reservations, reservoir sites, timber reservations, tracts covered by filings or selections, railroad grants, or claims not adjudicated were situated as follows: Alabama, 312,630 acres; Arizona, 48,771,054 acres, of which 11,615,248 acres were surveyed and 37,155,806 acres unsurveyed; Arkansas, 3,224,128 acres; California, 42,049,008 acres, of which 7,996,412 acres were unsurveyed; Colorado, 39,115,814 acres, of which 4,396,055 acres were unsurveyed; Florida, 1,459,774 acres, of which 160,070 acres were unsurveyed; Idaho, 42,475,176 acres, of which 30,795,087 acres were unsurveyed; Kansas, 1,085,315 acres; Louisiana, 319,335 acres, of which 65,018 acres were unsurveyed; Michigan, 462,157 acres; Minnesota, 4,140,193 acres, of which 2,172,908 acres were unsurveyed; Mississippi, 195,980 acres; Missouri, 281,727 acres; Montana, 65,803,307 acres, of which 46,664,861 acres were unsurveyed; Nebraska, 9,926,670 acres; Nevada, 61,322,225 acres; New Mexico, 55,589,124 acres, of which 31,654,848 acres were unsurveyed; North Dakota, 16,956,491 acres, of which 4,982,753 acres were unsurveyed; Oklahoma, 4,653,605 acres; Oregon, 33,784,023 acres, of which 10,141,659 acres were unsurveyed; South Dakota, 11,869,004 acres, of which 397,866 acres were unsurveyed; Utah,

42,515,855 acres, of which 31,685,613 acres were unsurveyed; Washington, 11,913,164 acres, of which 6,299,221 acres were unsurveyed; Wisconsin, 230,813 acres; Wyoming, 47,656,896 acres, of which 4,887,309 acres were unsurveyed. The total area of public lands and Indian lands remaining unsurveyed, including private land claims, was 698,897,362 acres. The number of acres entered under the homestead act during the year ending June 30, 1901, was 9,497,275. No lands were taken up under the timber-culture act. The receipts of the General Land Office for the year were \$4,307,437 from disposal of public lands, \$585,661 from disposal of Indian lands, \$585,661 for depredations on public lands, \$25,305 from sales of timber, \$597 from sales of Government property, \$14,429 for furnishing records and plots, and \$16,686 from fees and commissions.

Forests.—There are 699,500,000 acres of forest in the United States, constituting 36.5 per cent. of the land area, exclusive of Alaska. There are 2,250,000,000 cubic feet of lumber consumed annually in the United States, and 15,000,000,000 cubic feet of wood for fuel, 27,000,000 cubic feet of railroad ties, 30,000,000 cubic feet of fencing, and 1,000,000,000 cubic feet used for other purposes, making the annual consumption over 18,000,000,000 cubic feet. The annual value of forest products is \$1,038,616,000. The greater part of the white-pine forests has been cut down, and serious inroads have been made on other valuable timbers. The average annual loss by fire is over \$20,000,000. In accordance with the act of March 3, 1891, the President made 17 national forest reservations, comprising 17,968,440 acres, situated in Colorado, California, New Mexico, Arizona, Wyoming, Oregon, and Washington, and in 1897 President Cleveland proclaimed 13 additional reservations, comprising 25,683,840 acres. New York, Kansas, Michigan, Minnesota, Maine, New Hampshire, Pennsylvania, and Wisconsin have State Forest Commissions.

Patents.—During the year ending Dec. 31, 1900, there were 26,499 patents, reissues, and design patents granted, and 1,721 trade-marks, 737 labels, and 93 prints registered; total, 28,050. The number of applications for patents was 39,673; for design patents, 2,225; for reissues of patents, 82; for registration of trade-marks, 2,099; for registration of labels, 943; for registration of prints, 127; caveats filed, 1,731; disclaimers, 2; appeals on the merits, 907; total, 47,789.

Commerce and Production.—The total value of foreign merchandise imported into the United States in the year ending June 30, 1901, was \$823,172,165, compared with \$849,941,184 in 1900. The total value of domestic exports was \$1,460,462,806, compared with \$1,370,763,571 in 1900, which was the highest amount reached up to that year. Of the imports of 1901 the value of \$47,100,814 was brought in cars and other land vehicles, \$93,055,493 in American vessels, and \$683,015,858 in foreign vessels. Of the exports in 1901 the value of \$104,184,393 was carried in cars and other land vehicles, \$81,406,597 in American vessels, and \$1,274,871,816 in foreign vessels. The total value of imports free of duty was \$339,608,669, and of dutiable imports \$483,563,496. The values of the various articles of merchandise imported during the year ending June 30, 1901, are given in the following table:

Articles.	Values.
Sugar.....	\$90,487,800
Hides and skins, other than fur.....	48,220,013
Chemicals, drugs, dyes, and medicines.....	53,508,157
Coffee.....	62,861,399
Silk, unmanufactured.....	30,051,365
Cotton, manufactures of.....	40,246,935

Articles.	Values.
Fibers, vegetable, manufactures of.....	\$32,762,008
India-rubber and gutta-percha, crude.....	28,835,173
Silk, manufactures of.....	26,842,138
Fibers, vegetable, unmanufactured.....	22,932,506
Wood, and manufactures of.....	19,754,205
Iron and steel, and manufactures of.....	17,874,789
Wool, unmanufactured.....	12,529,881
Fruits, including nuts.....	19,586,703
Tin, in bars, blocks, or pigs.....	19,805,551
Jewelry and precious stones.....	24,216,407
Wool, manufactures of.....	14,585,306
Tobacco.....	16,290,387
Tobacco, manufactures of.....	2,480,139
Leather, and manufactures of.....	11,887,012
Copper, and manufactures of.....	9,940,463
Furs, and manufactures of.....	11,019,658
Tea.....	11,017,876
Earthen, stone, and china ware.....	9,472,869
Cotton, unmanufactured.....	6,787,828
Wines.....	8,219,236
Oils.....	7,097,431
Cacao, crude, and shells of.....	6,472,829
Glass and glassware.....	5,010,675
Animals.....	4,478,955
Coal, bituminous.....	5,381,474
Feathers, flowers, etc.....	3,674,384
Paper, and manufactures of.....	4,002,989
Spirits, distilled.....	4,162,149
Books, maps, engravings, etc.....	3,792,536
Spices.....	3,563,109
Paper stock, crude.....	2,183,686
Cement.....	2,198,891
Lead.....	4,832,737
Toys.....	3,830,311
Vegetables.....	3,719,679
Hats, bonnets, and materials for.....	2,798,109
Hair, and manufactures of.....	1,680,145
Art works.....	3,304,546
Rice.....	2,324,898
Provisions.....	2,649,466
Bristles.....	1,730,197
Corkwood, and manufactures of.....	2,270,995
Clocks and watches, and parts of.....	2,038,239
Malt liquors.....	1,885,215
Fertilizers.....	2,230,235
All other articles.....	83,641,876
Total merchandise.....	\$823,172,165

The quantity of sugar imported was 3,975,005,840 pounds; of coffee, 854,871,311 pounds; of tea, 89,806,453 pounds; of cacao, 45,924,353 pounds; of rice, 117,199,710 pounds; of tobacco, 26,851,853 pounds; of malt liquors, 3,599,446 gallons; of wool, 103,583,505 pounds; of cotton, 46,631,283 pounds; of hides and skins, 280,909,837 pounds; of India-rubber and gutta-percha, 64,927,176 pounds; of bristles, 1,684,575 pounds; of coal, 1,977,238 tons; of tin, 73,091,890 pounds; of lead, 251,183,836 pounds; of cement, 638,770,499 pounds.

The values of the articles of domestic produce or manufacture exported in the fiscal year 1901 are given in the following table:

Articles.	Values.
Agricultural implements.....	\$16,313,434
Animals.....	52,058,876
Books, maps, engravings, and other printed matter.....	3,472,343
Brass, and manufactures of.....	2,007,450
Breadstuffs:	
Corn.....	82,527,983
Wheat.....	96,771,743
Wheat-flour.....	69,459,296
Carriages, cars, and other vehicles, and parts of.....	10,920,931
Chemicals, drugs, dyes, and medicines.....	14,384,453
Clocks and watches.....	2,340,751
Coal:	
Anthracite.....	8,425,803
Bituminous.....	13,891,698
Copper ore.....	1,346,707
Manufactures of.....	43,267,021
Cotton, unmanufactured.....	313,673,443
Manufactures of cotton.....	20,272,418
Earthen, stone, and china ware.....	512,913
Fertilizers.....	5,425,960
Fibers, vegetable, and textile grasses, manufactures of.....	4,302,876
Fish.....	6,789,482
Apples, green or ripe.....	2,058,964
Fruits and nuts, all other.....	8,767,687
Furs and fur skins.....	4,404,448
Glass and glassware.....	2,126,309

Articles.	Values.
Glucose or grape-sugar	\$3,113,898
Gunpowder and other explosives	1,712,102
Hay	1,476,870
Hops	2,466,515
India-rubber manufactures	3,659,361
Instruments for scientific purposes	7,361,231
Iron and steel manufactures of	117,319,320
Leather, and manufactures of	27,923,653
Malt liquors	17,923,025
Marble, stone, and manufactures of	1,638,314
Musical instruments	2,780,796
Naval stores	12,580,950
Oil-cake, oil-cake meal	18,591,898
Oils:	
Animal	1,018,431
Mineral, crude	6,686,929
Mineral, refined	64,425,859
Vegetable	19,035,686
Paints, pigments, and colors	2,036,343
Paper, and manufactures of	7,438,901
Paraffin, paraffin wax	6,857,288
Provisions:	
Beef products	44,225,319
Hog products	119,961,503
Oleomargarin	12,330,874
Other meat products	11,038,219
Dairy products	9,403,722
Seeds:	
Clover	1,063,506
All other	5,321,309
Soap	1,569,180
Spirits, distilled	3,054,723
Starch	2,005,865
Sugar, molasses, and sirup	2,526,077
Sugar, refined	437,523
Tobacco, unmanufactured	27,656,475
Tobacco manufactures	5,092,603
Vegetables	2,598,717
Wood, and manufactures of	52,445,585
Wool, and manufactures of	1,568,750
All other articles	62,792,802

Total exports of domestic merchandise... \$1,460,462,806

The exports of corn were 177,817,965 bushels; of wheat, 132,060,667 bushels; of wheat-flour, 18,650,979 barrels; of beef products, 538,462,660 pounds; of pork products, 1,462,369,849 pounds; of oleomargarin, 166,642,112 pounds; of paraffin, 129,184,962 pounds; of oil-cake and oil-meal, 1,713,842,177 pounds; of apples, 883,673 barrels; of hops, 14,963,676 pounds; of animal oils, 2,399,469 gallons; of crude mineral oil, 138,448,430 gallons; of molasses and sirup, 17,587,959 gallons; of refined sugar, 8,727,639 pounds; of tobacco, unmanufactured, 315,787,782 pounds; of clover seed, 11,998,674 pounds; of raw cotton, 3,330,890,448 pounds; of copper ore, 10,106 tons; of anthracite coal, 1,912,080 tons; of bituminous coal, 5,763,469 tons.

The imports of gold were \$66,051,187; of silver, \$36,386,521; total specie imports, \$102,437,708; total value of merchandise and specie imported, \$925,609,873. The exports of domestic gold were \$52,635,309; of foreign gold, \$549,868; total gold exports, \$53,185,177; exports of domestic silver, \$58,778,779; of foreign silver, \$5,506,401; total silver exports, \$64,285,180; total exports of specie, \$117,470,357; exports of foreign merchandise, \$27,302,185; total exports of merchandise and specie, domestic and foreign, \$1,605,235,348. The growth of the foreign commerce of the United States in ten years is shown in the following table:

YEAR.	Imports.	Exports.	Excess of exports.
1892.....	\$827,402,462	\$1,030,278,148	\$202,875,686
1893.....	866,400,922	847,665,194	18,735,728*
1894.....	654,994,622	892,140,572	237,145,950
1895.....	731,969,965	807,538,165	75,568,200
1896.....	779,724,674	882,606,938	102,882,264
1897.....	764,730,412	1,050,993,556	286,263,144
1898.....	616,050,654	1,231,482,330	615,431,676
1899.....	697,148,489	1,227,023,302	529,874,813
1900.....	849,941,784	1,394,483,082	544,541,898
1901.....	823,172,165	1,487,764,991	664,592,826

* Excess of imports.

The values of the merchandise imports from and exports to the different foreign countries, colonies, islands, and ports during the year ending June 30, 1901, are given in the following table:

COUNTRIES.	Imports.	Exports.	
		Domestic.	Foreign.
Austria-Hungary.....	\$10,067,970	\$6,963,229	\$3,104,741
Azores and Madeira Islands.....	25,395	426,351	1,084
Belgium.....	14,601,711	48,552,762	836,497
Denmark.....	644,993	16,148,968	26,267
France.....	75,458,739	76,431,378	2,283,719
Germany.....	100,415,902	188,350,919	3,429,508
Gibraltar.....	52,863	676,394	2,420
Greece.....	1,124,775	291,506	32
Greenland, Iceland, etc.....	82,533	525	
Italy.....	24,618,384	34,277,491	195,698
Malta, Gozo, etc.....	14,744	438,474	508
Netherlands.....	20,598,789	83,847,330	508,988
Portugal.....	3,370,430	5,289,460	4,780
Roumania.....		26,560	
Russia, Baltic, etc.....	5,546,280	6,301,553	43,740
Russia, Black Sea.....	1,484,612	1,730,071	8,864
Servia.....	10,699	369	
Spain.....	5,409,301	15,455,839	24,449
Sweden and Norway.....	3,487,039	11,838,911	5,241
Switzerland.....	15,799,400	252,126	3,294
Turkey in Europe.....	3,386,722	392,908	50
Great Britain and Ireland.....	143,388,501	624,216,404	6,960,753
Bermuda.....	531,323	1,285,938	27,069
British Honduras.....	241,509	796,841	16,976
British North America:			
Nova Scotia, New Brunswick, etc.....	5,496,697	7,110,346	731,225
Quebec, Ontario, etc.....	27,599,746	83,945,432	6,990,281
British Columbia.....	9,385,720	6,666,680	345,250
Newfoundland and Labrador.....	420,315	1,948,827	8,478
Central American States:			
Costa Rica.....	2,990,550	1,916,200	30,526
Guatemala.....	3,512,445	1,394,579	30,235
Honduras.....	1,262,317	1,029,194	85,815
Nicaragua.....	2,035,636	1,344,373	137,821
Salvador.....	1,037,715	725,358	13,364
Mexico.....	28,851,635	35,857,837	617,513
Miquelon, Langley, etc.....	32,814	218,014	2,706
West Indies:			
British.....	12,851,325	8,765,230	115,822
Cuba.....	43,423,088	24,100,453	1,864,348
Danish.....	478,262	685,287	6,663
Dutch.....	240,019	644,466	3,132
French.....	13,972	1,828,633	28,001
Hayti.....	1,199,240	3,144,235	280,432
Santo Domingo.....	3,553,776	1,704,008	95,677
Argentine Republic.....	8,065,318	11,289,938	247,730
Bolivia.....		152,285	30
Brazil.....	70,643,347	11,576,461	87,113
Chile.....	8,683,279	5,282,405	12,321
Colombia.....	3,290,652	3,095,165	46,887
Ecuador.....	1,424,840	2,012,698	2,387
Falkland Islands.....		797	
Guianas:			
British.....	4,805,395	1,689,159	45,245
Dutch.....	1,272,731	606,481	4,506
French.....	54,018	197,701	2,306
Paraguay.....	17,465	12,605	
Peru.....	3,616,180	3,122,180	4,754
Uruguay.....	1,883,994	1,613,822	23,252
Venezuela.....	6,645,848	3,224,317	47,560
Aden.....	1,520,629	999,213	685
British China.....	81	220	
China.....	18,303,706	10,287,312	118,522
East Indies:			
British.....	43,882,493	6,248,408	3,396
Dutch.....	19,026,481	2,060,958	3,747
French and Portuguese.....		59,367	
Hong-Kong.....	1,416,412	7,946,695	63,153
Japan.....	29,229,543	18,656,899	343,741
Korea.....	768	215,545	6
Russian China.....		377,252	
Russia, Asiatic.....	3,529	1,502,912	2,930
Turkey in Asia.....	3,897,854	191,249	2,913
All other Asia.....	396,115	305,413	176
British Australasia.....	4,767,661	30,577,345	149,342
French Oceania.....	577,336	398,362	12,857
Hawaiian Islands.....			
Tonga, Samoa, etc.....	70,744	129,931	155

COUNTRIES.	Imports.	EXPORTS.	
		Domestic.	Foreign.
Philippine Islands...	\$4,420,912	\$4,014,100	\$12,884
British Africa.....	813,440	21,613,995	40,463
Canary Islands.....	32,901	253,275	1,645
French Africa.....	417,223	839,229	4,115
Liberia.....	4,867	25,476	19
Madagascar.....	547	25,194	.....
Portuguese Africa....	1,643	1,425,536	3
Spanish Africa.....	5,387	13,585	.....
Egypt.....	7,912,271	1,216,445	328
Tripoli.....	183,742	1,469	.....
All other Africa.....	281,431	78,831	.....
Auckland, Fiji, and Norfolk Islands.....	1,472,117	15,982	.....
German Oceania.....	5,381	46,672	.....
Guam.....	1,044	34,223	468
Total.....	\$823,172,165	\$1,460,462,806	\$27,302,185

The imports and exports at the principal ports in 1901 are given in the following table:

CUSTOMS DISTRICTS.	Imports.	Exports.
Baltimore.....	\$18,899,473	\$106,239,081
Boston and Charlestown.....	61,452,370	143,708,232
Brunswick.....	28,135	7,952,637
Charleston.....	1,477,719	7,084,215
Detroit.....	2,867,645	17,669,535
Galveston.....	953,801	101,857,300
Mobile.....	3,008,449	11,837,105
New Orleans.....	20,462,307	152,776,599
Newport News.....	4,090,451	32,567,912
New York.....	527,259,946	529,592,978
Norfolk and Portsmouth.....	593,930	10,308,489
Pensacola.....	238,334	13,455,761
Philadelphia.....	48,043,443	79,354,025
Portland, Me.....	633,114	12,416,793
Puget Sound.....	6,721,060	20,678,829
San Francisco.....	35,161,753	34,596,792
Savannah.....	645,067	46,738,967
Wilmington, N. C.....	180,912	12,013,659

The production of wool in the United States in 1901 was estimated at 302,502,328 pounds, and the importation at 103,583,505 pounds, making a total of 406,085,833 pounds, from which are deducted 199,565 pounds of domestic and 3,590,502 pounds of foreign wool exported, leaving for home consumption 402,295,766 pounds, of which 22.6 per cent. is foreign wool. The cotton-crop of the United States for the year ending Sept. 1, 1901, was estimated at 10,425,141 bales, against 9,439,559 bales of 487 pounds in 1900. The exports of cotton to Europe in 1901 were 6,415,477 bales, and the consumption of the United States and Canada was 4,071,030 bales; total, 10,486,507 bales. The consumption of the United States in 1901 was estimated at 3,727,000 bales of 500 pounds, the world's consumption at 13,593,000 bales; the production of America at 10,677,000 bales of 494 pounds, the world's production at 12,343,000 bales. The number of spindles in operation in the United States was 20,870,000.

The number of acres under corn in the United States in 1900 was 83,320,872; under wheat, 42,495,385; under oats, 27,364,795. The value of the corn-crop was \$751,720,034; of the wheat-crop, \$323,515,177; of the oat-crop, \$208,669,233.

The production of corn in the United States in the calendar year 1900 was 2,105,102,516 bushels; of wheat, 522,229,505 bushels; of oats, 809,125,989 bushels; of barley, 58,925,833 bushels; of rye, 23,995,927 bushels; of buckwheat, 9,566,966 bushels. The annual value of dairy products of the United States is estimated at \$451,600,000, including \$167,200,000 for 2,090,000,000 gallons of milk consumed, \$257,400,000 for 1,430,000,000 pounds of butter, and \$27,000,000 for 300,000,000 pounds of cheese, reckoning 380 gallons of milk per cow from 5,500,000 cows, 300 pounds of cheese per cow from 1,000,000 cows, and 130 pounds of

butter per cow from 11,000,000 cows. The number of hogs packed and marketed during the year ending March 31, 1901, was 28,980,000. In the year ending June 30, 1900, there were 708,544,100 pounds of bacon and hams, 159,145,229 pounds of pork and 661,813,603 pounds of lard exported; total, 1,529,502,932 pounds, valued at \$109,572,863, the average price per pound being 7.16 cents. The number of horses in the United States in 1900 was 13,537,534, valued at \$603,969,442; of mules, 2,086,127, valued at \$111,717,092; of milch cows, 16,292,360, valued at \$514,812,106; of oxen and other cattle, 27,610,054, valued at \$689,486,260; of sheep, 41,883,065, valued at \$122,665,916; total value of farm animals, \$2,212,756,578.

The production of cane-sugar in Louisiana in 1900 was estimated at 132,000 tons; in Cuba, 395,000 tons; in Porto Rico, 50,000 tons; in Hawaii, 275,000 tons; the total world's production, 2,839,000 tons. The estimated production of beet-sugar in the United States was 72,944 tons; the world's production, 5,608,000 tons. The production of sugar in Louisiana in 1900 was 329,968,450 pounds; in other Southern States, 4,626,000 pounds; total, 334,594,450 pounds, or 149,372 long tons; production of molasses in Louisiana, 14,971,313 gallons; in other Southern States, 3,192,136 gallons. The product of imported sugar refined in the United States in 1900 was 1,950,014 tons; manufactured from imported molasses, 7,647 tons; domestic cane-sugar, 174,450 tons; maple-sugar, 5,000 tons; domestic beet-sugar, 82,736 tons; total consumption, 2,919,847 tons, average 65.2 pounds per head of population. The consumption of malt liquors in the United States in the fiscal year 1900 was 39,330,844 barrels. The importation of malt liquors in 1901 was 1,151,891 gallons in bottles and 2,447,555 in other coverings. The production of fermented liquors in the United States in 1900 was 39,471,593 barrels; of bourbon whisky, 19,411,829 gallons; of rye whisky, 14,296,568 gallons; of alcohol, 10,735,771 gallons; of rum, 1,614,514 gallons; of gin, 1,597,081 gallons; of pure neutral spirits, 24,173,671 gallons; of fruit brandy, 3,760,487 gallons; total distilled spirits, including high wines and miscellaneous spirits, 109,945,187 gallons. The production of wines was 24,306,905 gallons, of which California furnished 14,620,000 gallons, New York 2,528,250 gallons, and Ohio 1,934,838 gallons. The imports of distilled spirits in 1901 were 290,301 gallons of brandy and 1,712,156 gallons of other spirits and compounds. There were 875,099 gallons of domestic manufacture returned. The importation of still wines in casks was 2,785,850 gallons; in bottles, 373,832 dozen; of champagne and other sparkling wines, 311,078 dozen. The consumption of domestic spirits from fruit in 1900 was 1,386,361 gallons; of other domestic spirits, 94,156,023 gallons; of imported spirits, 1,705,998 gallons; of domestic wines, 26,492,491 gallons; of imported wines, 3,935,000 gallons; of domestic malt liquors, 1,218,183,252 gallons; of imported malt liquors, 3,316,908 gallons.

The production of crude petroleum in the calendar year 1899 was 57,070,850 barrels or 2,396,975,700 gallons. The exports of crude petroleum for the fiscal year 1900 were 133,023,656 gallons; of naphthas, benzene, and gasoline, 21,988,093 gallons; of illuminating oil, 721,027,637 gallons; of heavy paraffin and lubricating oils, 74,583,769 gallons; total, 967,252,341 gallons, valued at \$75,611,750. The world's production of mineral oil is over 5,000,000 gallons, of which the United States produces 2,500,000 gallons, Russia, 2,250,000 gallons, and Austria, Sumatra, Java, Canada, Germany, and other countries the remainder. The

American exports were in value more than three times as great as those of Russia in 1900. The United States in 1900 produced 268,787 long tons of copper, which was 55 per cent. of the world's production. Michigan produced 144,227,340 pounds; Arizona, 115,403,846 pounds; Montana, 254,460,713 pounds; California, 29,639,987 pounds; Utah, 18,504,726 pounds; Colorado, 7,826,949 pounds; Eastern and Southern States, 6,918,122 pounds; other States, 12,536,850 pounds; copper in sulfate obtained as a by-product, 11,313,962 pounds. The quantity of zinc produced in the United States in 1900 was 111,794 metric tons, which was 22 per cent. of the world's supply. The production of pig iron in the United States in 1900 was 14,099,870 metric tons, being 34 per cent. of the world's production; of steel, 10,382,069 metric tons, which was 38 per cent. of the world's production. The production of asbestos in the United States in 1900 was 998 metric tons, value \$16,500; of asphalt, 10,106 tons, value \$218,520; of asphaltic limestone, 3,547 tons, value \$16,830; of bituminous sandstone, 31,096 tons, value \$138,892; of barytes, 37,618 tons, value \$80,922; of bauxite, 23,820 tons, value \$85,922; of bismuth ore, 200 tons, value \$26,500; of bromine, 236 tons, value \$140,790; of calcium borate, 22,997 tons, value \$532,350; of natural hydraulic cement, 1,248,828 tons, value \$4,308,709; of Portland cement, 1,449,994 tons, value \$10,461,910; value of clay products, \$78,704,678; production of anthracite coal, 52,131,212 metric tons, value \$102,972,596; of bituminous coal, 191,256,216 tons, value \$219,460,521; of canal coal, 26,736 tons, value \$88,413; of cobalt oxid, 5,566 kilograms, value \$22,085; of copper sulfate, 34,480 metric tons, value \$3,903,102; of corundum, 753 tons, value \$58,100; of emery, 3,810 tons, value \$189,000; of feldspar, 29,918 tons, value \$136,773; of fluorspar, 19,646 tons, value \$114,430; of fuller's earth, 10,717 tons, value \$70,565; of garnet, 2,980 tons, value \$92,810; of grahamite, 9,975 tons, value \$98,370; of crystalline graphite, 1,861,132 kilograms, value \$164,122; of amorphous graphite, 948 metric tons, value \$8,640; of gypsum, 439,265 tons, value \$1,316,255; of iron ore, 26,332,071 tons, value \$77,152,179; of lepidolite, 91 tons, value \$3,700; of crude magnesite, 2,456 tons, value \$11,832; of manganese ore, 221,714 tons, value \$461,994; of scrap mica, 4,914 tons, value \$49,889; of sheet mica, 57,716 kilograms, value \$82,508; of molybdenum ore, 22 tons, value \$1,200; of monazite, 412 tons, value \$50,680; value of natural gas, \$18,500,000; production of ocher, including umber, sienna, and oxid of iron, 38,027 tons, value \$461,087; of crude petroleum, 8,749,458 tons, value \$74,246,582; of rock phosphate, 1,552,154 tons, value \$5,375,956; value of precious stones, \$200,000; production of pyrites, 204,538 tons, value \$684,478; of salt, 2,633,967 tons, value \$6,439,006; value of silica brick, \$916,819; production of diatomaceous earth, 1,247 tons, value \$9,675; of flint, 32,582 tons, value \$81,400; of sand, 889,000 tons, value \$1,312,500; of pumice, 227 tons, value \$1,250; of grindstones, 38,138 tons, value \$482,462; value of whetstones, \$84,874; production of tripoli, 1,675 tons, value \$3,987; of roofing slate, 299,385 tons, value \$2,885,153; value of slate manufactures, \$72,787; production of slate pigment, 6,003 tons, value \$72,787; of soapstone, 17,197 tons, value \$189,560; of natural soda, 12,791 tons, value \$195,300; value of building stone, \$41,400,000; production of limestone flux, 6,898,843 tons, value \$3,666,708; of lithographic stone, 36 tons, value \$2,000; of sulfur, 4,704 tons, value \$102,091; of sulfuric acid, 77,111 tons, value \$2,045,950; of common talc, 7,049 tons, value \$60,

217; of fibrous talc, 40,824 tons, value \$236,250; of tungsten ore, 224 tons, value \$35,200; of uranium ore, 139 tons, value \$15,900; of zinc sulfate, 478 tons, value \$22,657; of zinc ore, exported, 38,156 tons, value \$1,133,663; of zinc white, 42,775 tons, value \$3,772,080; estimated value of other minerals, \$5,000,000; total value of mineral products, \$672,099,416. The production of aluminum in 1900 was 3,243,219 kilograms, value \$2,288,000; of antimony, 1,452 tons, value \$301,440; of copper, 272,536 tons, value \$97,755,449; of ferromanganese, 260,073 tons, value \$22,825,469; of ferromolybdenum, 5 tons, value \$12,100; of gold, 117,611 kilograms, value \$76,159,674; of pig iron, 13,749,797 tons, value \$250,184,857; value of iridium, \$311; production of lead, 250,301 tons, value \$24,114,212; of molybdenum, 14,515 kilograms, value \$46,080; of nickel, 4,407 kilograms, value \$4,534; of platinum, 5.4 kilograms, value \$3,114; of quicksilver, 967 tons, value \$1,288,851; of silver, 1,852,564 kilograms, value \$36,576,900; of tungsten, 25,855 tons, value \$51,800; of zinc, 111,794 tons, value \$10,819,682; total value of metals, \$524,432,533. The production of alum in 1900 was 18,626 tons, value \$415,930; of aluminum sulfate, 55,954 tons, value \$1,480,272; of carborundum, 1,089 tons, value \$216,090; of slag cement, 88,932 tons, value \$622,490; of coke, 17,424,471 tons, value \$50,272,050; of copperas, 11,226 tons, value \$96,517; of crushed steel, 313 tons, value \$48,300; of artificial graphite, 390,434 kilograms, value \$68,860; of white lead, 87,468 tons, value \$9,910,742; of red lead, 9,161 tons, value \$1,050,192; of orange mineral, 748 tons, value \$100,650; of litharge, 9,491 tons, value \$1,067,124; of mineral wool, 5,445 tons, value \$60,320; of manufactured soda, 390,000 tons, value \$7,000,500; of Venetian red, 5,762 tons, value \$110,658; total value of important manufactured mineral and chemical products, \$72,720,695. From foreign ores and bullion were manufactured in the United States 28,342,688 kilograms of copper, value \$10,166,194; 60,605 kilograms of gold, value \$40,275,883; 93,750,340 kilograms of lead, value \$9,032,003; 3,488,648 kilograms of nickel, value \$3,599,713; and 1,450,024 kilograms of silver, value \$33,291,146; total value \$96,364,939.

Shipping.—The number of vessels registered in the United States in 1901 was 24,057, of 5,524,218 tons. Of these 7,414 were steamers and 16,643 were sailing vessels, canal-boats, and barges. There were 346 steamers of 426,259 tons, and 940 sailing vessels, etc., of 453,336 tons, engaged in foreign trade; total, 1,286 vessels, of 879,595 tons. In coastwise trade 7,059 steamers, of 2,491,231 tons, and 14,210 sailing and other vessels were engaged; total, 21,269 vessels, of 4,582,645 tons. In the year ending June 30, 1901, there were 526 sailing vessels, of 126,165 tons, 506 steamers, of 273,591 tons, 79 canal-boats, of 9,078 tons, and 469 barges, of 74,655 tons, built and first registered; total, 1,580 vessels, of 483,489 tons. The tonnage of the American merchant marine has steadily increased since 1880, having previously declined to 4,068,034 tons in that year from 5,999,175 tons in 1860.

Postal Service.—There were 76,945 post-offices and 511,808 miles of post routes on July 1, 1901. The revenue of the department in 1901 was \$111,631,193, and the expenditure \$115,554,920. The salaries of postmasters amounted to \$19,949,514, and \$58,610,976 were paid for transportation of the mails. The number of pieces of mail-matter carried during the year was about 8,000,000,000. The number of domestic money-orders was 35,586,379, and their amount was \$274,546,067; the

international money-orders numbered 1,247,888, and their amount was \$20,072,613.

Telegraphs and Telephones.—The Western Union Telegraph Company had a network of 193,589 miles of land wires and cables, with 972,766 miles of wire in 1901, in which year the number of messages transmitted was 65,657,049. The receipts were \$26,354,150, and expenses \$19,668,902. The average toll per message was 25.1 cents. The Postal Telegraph Company also has wires covering parts of the United States.

The American Telephone Company in 1901 had 1,348 exchanges, 1,427 branch offices, 627,897 miles of wire on poles, 16,833 miles of wire on buildings, 705,269 miles of underground wire, and 4,203 miles of submarine wire, making a total of 1,354,202 miles of wire. The total number of circuits was 508,262; the number of stations, 800,880; persons employed, 32,837; number of instruments rented, 1,952,412; number of daily conversations in the United States, 5,668,986; number per annum, over 1,825,000,000; average daily calls per subscriber, 7.1. The capital of the company is \$89,100,500. The long-distance telephone-lines on Jan. 1, 1901, had a total length of 12,427 miles, with 167,410 miles of wire and 359 offices. There are in the larger cities private branch exchanges used by the principal business houses. Independent telephone companies are in operation in every part of the country.

Railroads.—The railroads of the United States in 1901 had a length of 192,162 miles, besides 65,691 miles of second tracks and sidings, which make the total length of track 257,853 miles, of which 239,629 miles were laid with steel and 18,224 miles with iron rails. There were 38,065 locomotive engines. The number of passenger cars was 26,786; baggage and mail cars, 8,200; freight-cars, 1,350,258; total number of cars, 1,385,253. The number of miles of railroad operated in 1901 was 191,862. The passenger-train mileage was 373,226,581; freight, 513,667,388; mixed, 20,702,172; total, 907,596,141 miles. The number of passengers carried was 584,695,935; passenger mileage, 16,313,284,471; tons of freight moved, 1,071,431,919; freight mileage, 141,162,109,413. The bonded debt was \$5,758,346,250; unfunded debt, \$328,963,335; current accounts, \$422,262,823; sinking and other funds, \$114,800,860; total liabilities, \$12,428,966,022, balanced by \$10,484,430,907 expended in construction, \$1,766,493,090 of other investments, \$328,994,626 of sundry assets, \$188,922,213 of current accounts, and \$339,944,815 of surplus assets. The earnings from passengers in 1901 were \$331,402,816; from freight, \$1,052,835,811; miscellaneous earnings, \$117,456,751; total revenue from traffic, \$1,501,695,378; net earnings, \$483,247,526; receipts from other sources, \$67,772,934; total available revenue, \$551,020,460. The payments were \$214,199,502 for interest on bonds, \$6,315,028 for other interest, \$119,288,879 for dividends on stock, \$46,153,433 for miscellaneous purposes, \$30,248,304 of interest on rentals, \$21,054,774 of dividends on leased lines, and \$21,200,651 of miscellaneous rentals. The total official mileage reported by the Interstate Commerce Commission was 192,940 miles on June 30, 1901, and the unofficial mileage 405; total, 193,345 miles, showing an increase of 4,051 during the year, making 6.51 miles of line to 100 square miles of territory and 25.44 miles to 10,000 inhabitants. In Alaska there are 22 miles of railroad not included in the statistics above.

Commercial Treaties.—The reciprocity agreement made with France on May 28, 1898, on the basis of the Dingley tariff of 1897, reduced the duty on crude tartar from France to 5 per cent.

ad valorem, on brandy and other spirits to \$1.75 per gallon, on still wines and vermouth by a small percentage, and on paintings to 15 per cent. ad valorem, in return for which France extended the minimum tariff rates to American canned meats, table fruits, dried fruits, lard, manufactured and prepared pork products, hops, paving-blocks, staves, logs, and sawed or squared timber. A reciprocity treaty was concluded with France on July 24, 1899, but the Senate had not ratified it before the close of 1901. The same was true of the reciprocity treaty with the Argentine Republic signed on July 10, 1899, and of the treaties made with Great Britain for Barbadoes on June 16, 1899, for British Guiana on July 18, 1899, for Jamaica on July 22, 1899, and for Bermuda on July 24, 1899. In the reciprocal agreements made with Italy on Feb. 8, 1900, with Portugal on May 22, 1900, and with Germany on July 10, 1900, the same concessions are made as to France, in return for which Portugal gives to the United States as low rates as are accorded to any country except Spain and Brazil on breadstuffs, lard, mineral oil, agricultural implements, and some classes of machinery for manufacturing; Italy gives reduced duties on cottonseed-oil, fish, machinery, scientific instruments, fertilizers, and skins; and Germany grants to the United States the same tariff rates as are given to Belgium, Italy, Austria-Hungary, Roumania, Russia, and Switzerland during the existence of the unexpired tariff treaties with those countries, and annuls the regulations enforced against the importation of dried fruits from the United States, providing instead of them a system of inspection to prevent the introduction of the San José scale into Germany. The reciprocity treaty with France was reported favorably to the Senate in April, 1900, and subsequently treaties with Ecuador, Nicaragua, British Guiana, Santo Domingo, and the Danish island of Santa Cruz. Treaties with the British West Indian islands and with the Argentine Republic were not reported before the end of the session of 1900, and when Congress met on March 4, 1901, all the treaties were referred again under the rules to the Committee on Foreign Relations. On March 15 Mr. Hay and Lord Pauncefoot signed protocols extending for a year the time allowed for the ratification of reciprocity treaties relating to Jamaica, Bermuda, British Guiana, and the Turks and Caicos islands.

The imposition of the restrictive duties of the Dingley tariff on Russian beet-sugar provoked the Russian Government to reprisals. The Secretary of the Treasury in February, 1901, announced that Russian sugar would have to pay the increased duty of 35 per cent. placed on all sugar coming from countries paying a bounty on exports of sugar. His decision was subject to the decision of the United States Supreme Court on the question whether the excise rebate in Russia constitutes a bounty (see RUSSIA). Although the export of sugar from Russia to the United States is comparatively small, amounting to less than \$23,000 in 1900, the Russian Government immediately retaliated by increasing by 30 per cent. the duties on American hardware, steel and iron manufactures, dynamo-electric machines, sewing-machines, and motors and machinery of all kinds. All the principal exports from the United States to Russia were affected, and a large and growing trade, amounting to \$10,000,000 a year, was checked by these differential maximum duties, which the Russian Minister of Finance can impose or revoke at will, while the Secretary of the United States Treasury must follow the provisions of the acts of Congress. In the preceding

year the Treasury had ruled that Russian sugar received no bounty, direct or indirect, but on reexamining the question on receiving protests from the sugar manufacturers, which were supported by the diplomatic representatives of several European states whose sugar was subjected to the countervailing duty, the Treasury reversed its former decision. The Russian differential tariff on the American manufactures selected went into force on Feb. 27. The Italian excise regulations were likewise held by the Treasury Department to afford an indirect bounty, and custom-house officers were ordered to collect the differential duties on Italian sugar if imports arrived, which would be refunded if the courts decided that there was no bounty. The Russian Government offered to cancel all the increased duties on American iron and steel fabrics if the Secretary of the Treasury would cancel the duty on Russian sugar. The Russian Government having, under the treaty of 1832, accorded to the United States for five years most-favored-nation treatment, was desirous of concluding a permanent reciprocity agreement. A controversy had arisen over petroleum previous to the dispute regarding sugar bounties.

The Isthmian Canal.—The treaty signed by Mr. Hay and Lord Pauncefote on Feb. 5, 1900, regarding the projected interoceanic canal was amended by the United States Senate by inserting a declaration that the Clayton-Bulwer treaty was superseded and one that none of the stipulations applied to measures which the United States might find necessary to take for securing by its own forces the defense of the United States and the maintenance of public order, and by excising the article which provided for bringing the treaty to the notice of other powers and inviting their adherence. The British Government regarded the treaty as supplementary to the Clayton-Bulwer convention of 1850 providing for the joint protection of any isthmian canal that might be constructed by the United States and Great Britain. A modification of that convention was regarded as necessary by the United States Government in view of its undertaking the construction of the Nicaragua Canal, for which a concession had been obtained from the Government of Nicaragua, and which was not likely to be executed by private enterprise. By the Clayton-Bulwer treaty the United States and Great Britain agreed that neither would occupy, or fortify, or colonize, or assume or exercise any domain over any part of Central America, nor attain any of these objects by protection afforded to or alliance with any state or people of Central America. The amendment of the Senate giving the right to take any measures to secure the defense of the United States was copied from a similar provision in the Suez Canal convention which allows the Sultan of Turkey and the Khedive of Egypt, on notifying the signatory powers, to take any necessary measure for securing by their own forces the defense of Egypt and the maintenance of public order and allows the Ottoman Government to take measures to insure by its own forces the defense of its other possessions on the eastern coast of the Red Sea. The British Government rejected the amendments of the Senate and refused to accept the treaty as amended on the ground that the amendments were inconsistent with the principle of neutrality which both governments had accepted, by which the canal would remain free and unimpeded in peace and in war to the commerce and navies of the world. Negotiations were resumed, and on Nov. 18, 1901, Mr. Hay and the British minister signed at Washington a second treaty, as follows:

"I. The high contracting parties agree that the present treaty shall supersede the aforementioned (Clayton-Bulwer) convention of April 19, 1850.

"II. It is agreed that the canal may be constructed under the auspices of the Government of the United States either directly at its own cost, or by gift or loan of money to individuals or corporations, or through subscription to or purchase of stock or shares, and, that, subject to the provisions of the present treaty, the said Government shall have and enjoy all the rights incident to such construction, as well as the exclusive right of providing for the regulation and management of the canal.

"III. The United States adopts, as the basis of the neutralization of such ship-canal the following rules substantially as embodied in the convention of Constantinople, signed Oct. 28, 1888, for the free navigation of the Suez Canal; that is to say:

"First, the canal shall be free and open to the vessels of commerce and of war of all nations observing these rules, on terms of entire equality, so that there shall be no discrimination against any such nation or its citizens or subjects in respect of the conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable.

"Second, the canal shall never be blockaded, nor shall any right of war be exercised nor any act of hostility be committed within it. The United States, however, shall be at liberty to maintain such military police along the canal as may be necessary to protect it against lawlessness and disorder.

"Third, vessels of war of a belligerent shall not revictual nor take any stores in the canal except so far as may be strictly necessary; and the transit of such vessels through the canal shall be effected with the least possible delay in accordance with the regulations in force, and with only such intermission as may result from the necessities of the service.

"Prizes shall be in all respects subject to the same rules as vessels of war of the belligerents.

"Fourth, no belligerent shall embark or disembark troops, munitions of war, or warlike materials in the canal except in case of accidental hindrance of the transit, and in such case the transit shall be resumed with all possible despatch.

"Fifth, the provisions of this article shall apply to waters adjacent to the canal, within three marine miles of either end. Vessels of war of a belligerent shall not remain in such waters longer than twenty-four hours at any one time except in case of distress, and in such case shall depart as soon as possible, but a vessel of war of one belligerent shall not depart within twenty-four hours from the departure of a vessel of war of the other belligerent.

"Sixth, the plant, establishments, buildings, and all works necessary to the construction, maintenance, and operation of the canal shall be deemed to be parts thereof for the purposes of this treaty, and in time of war, as in time of peace, shall enjoy complete immunity from attack or injury by belligerents, and from acts calculated to impair their usefulness as part of the canal.

"IV. It is agreed that no change of territorial sovereignty or of international relations of the country or countries traversed by the before-mentioned canal shall affect the general principle of neutralization or the obligation of the high contracting parties under the present treaty.

"V. The present treaty shall be ratified by the President of the United States by and with the

advice and consent of the Senate thereof, and by his Britannic Majesty; and the ratifications shall be exchanged at Washington or at London at the earliest possible time within six months from the date hereof."

The treaty was laid before the Senate on Dec. 10, was reported favorably to the Senate by the Committee on Foreign Relations on Dec. 6, and was ratified on Dec. 16 by 72 votes to 6. The report of the Isthmian Canal Commission, submitted to Congress on Dec. 4, 1901, recommended the adoption of the Nicaraguan route, which was estimated to cost \$189,864,000, whereas to complete the Panama Canal would cost \$144,233,358, while the directors of the Panama Canal Company demanded \$109,141,000 for the franchise and property. The Panama Canal might be built at the sea-level, while locks would be necessary on the Nicaragua route, but Lake Nicaragua would afford an inexhaustible supply of water for the canal. Panama has harbors on both coasts, though considerable work would be necessary to make the harbor on the Atlantic side suitable as an entrance to the canal. The Nicaragua route has no natural harbors, but harbors can be constructed at both ends. It is possible to complete the canal by the Nicaragua route in six years after two years of preparation, whereas ten years would be necessary for the completion of the Panama Canal. The length of the Nicaragua route is 183.66 miles, while that of the Panama route is 49.09 miles. The cost of operating and maintaining the Nicaragua Canal would be \$1,350,000 more per annum than the annual cost of the shorter canal. It would take a vessel thirty-three hours to pass through the Nicaragua Canal, while the passage of the Panama Canal would require only twelve hours. The Nicaragua route is better, however, for sailing vessels on account of favoring winds, and is more advantageous to commerce save that originating on the west coast of South America. The hygienic conditions, moreover, are better in Nicaragua. The commission recommended that the United States Government acquire a strip of territory 10 miles wide from ocean to ocean. The consent of Nicaragua and Costa Rica for the construction of the canal by way of Lake Nicaragua was easy to obtain. The concessions of the Colombian Government to the Panama Company have yet many years to run. The directors of the Panama Company offered later to sell its franchises and property to the United States Government for \$40,000,000, the figure at which the Isthmian Canal Commission estimated the work done on the excavation and the other property to be actually worth. The commission recommended the Government to accept the offer and complete the Panama Canal rather than build one by the Nicaragua route, for which a bill was already before Congress.

Finances.—The excess of revenues over expenditures for the fiscal year ending June 30, 1901, amounted to \$77,717,984, against a like excess for the previous year of \$79,257,060. There was an increase of about \$5,000,000 in the receipts from customs and \$12,000,000 in those from internal revenue. There was \$2,122,841 received from the sale of the claim of the United States against the Sioux City and Pacific Railway (a new item), and an increase of postal receipts of more than \$9,000,000. Except in the decrease of more than \$2,000,000 in the deficiency of the postal revenues and about \$8,000,000 in the amount of interest paid on the public debt, there was no marked change in the several items of expenditures, there being generally a small increase all along the line.

Of the surplus revenues for the year, about \$31,000,000 was permitted to accumulate in the Treasury; the remainder was expended in the purchase of United States bonds, on which was paid for premiums \$14,649,573. The bonds were purchased at substantially their market prices, which at the time represented an annual income from the investment of only 1.726 per cent. Even the 2-per-cent. bonds of the Government were at a considerable premium in the markets of the world. The continuance of a surplus every year not being deemed necessary or advisable, Congress, by an act approved March 2, 1901, modified the internal-revenue taxes imposed by the act of 1898 on beer, cigars, cigarettes, tobacco, snuff, and a few other items, and repealed a large portion of the stamp taxes imposed by the same act, all to take effect at the opening of the fiscal year 1902.

The detailed receipts and expenditures of the Government for 1901, compared with those for 1900, are set forth in the table at the head of the next page.

That portion of the public debt against which no reserve is held was decreased in the year ending Dec. 31, 1901, by \$56,067,091. The changes in the several items of which it is composed are shown in detail by the following table. The changes involved indicate a material reduction in the annual interest charge:

OBLIGATIONS.	Interest rate.	OUTSTANDING DEC. 31,	
		1901.	1900.
Consols of 1930.....	2	\$445,940,750	\$419,679,750
Loan of 1908-'18.....	3	97,564,160	104,900,040
Funded loan of 1907.....	4	240,063,300	287,578,100
Refunding certificates.....	4	32,250	34,380
Loan of 1925.....	4	139,618,600	162,315,400
Loan of 1904.....	5	20,060,150	26,992,100
Old loans matured.....		1,339,790	2,654,070
Old demand notes.....		53,847	53,847
National-bank redemption account.....		35,003,208	31,531,532
Fractional notes.....		6,874,492	6,878,419
Total.....		\$986,550,547	\$1,042,617,638

In addition to the above-mentioned obligations, there were outstanding on Dec. 31, 1901, of United States notes \$346,681,016, and of Treasury notes of 1890 \$38,596,000; in all, \$385,277,016, payable on demand, against which the Treasury held, as required by law, \$150,000,000 of gold for their redemption when presented for that purpose. This fund was maintained throughout the year unimpaired, the redemption of notes having been adjusted each day by exchange for gold out of the available cash balance. The gold certificates and silver certificates in circulation, though obligations of the Government, are issued only upon a deposit of an equal amount of the metal they represent, from which deposit they are respectively redeemable upon presentation, the certificates being in effect used for circulation to their amount in place of the gold or silver deposited.

The most noticeable change in the character of the assets held by the public Treasury during the calendar year was an increase of \$62,000,000 in the amount of gold held, the total at the close of the year being \$540,797,603, an amount seldom if ever exceeded by this or any other government. Of this amount, \$150,000,000 was by law held as a reserve to meet the redemption of certain Government notes, as before stated, and \$316,785,089 to meet the payment of the certificates that had been issued therefor, which circulate as money, leaving \$74,797,603 as a part of the cash balance available to meet current disbursements of the Government.

RECEIPTS.

SOURCES.	YEAR ENDING JUNE 30,	
	1901.	1900.
Customs.....	\$238,585,456	\$233,164,871
Internal revenue.....	307,180,664	295,327,927
Profit on coinage, bullion, deposits, etc.....	12,731,257	9,992,373
District of Columbia.....	3,986,176	4,008,724
Fees, consular, letters patent, and land.....	3,414,933	3,291,717
Customs, fees, fines, penalties, etc.....	711,791	675,707
Tax on national banks.....	1,681,473	1,998,554
Soldiers' Home permanent fund.....	492,624	.....
Navy Pension and Navy Hospital funds, etc.....	1,778,455	1,621,558
Trust funds, Department of State.....	537,622	.....
Dividend received account Kansas Pacific Railroad.....	133,943	821,898
Deposits for surveying public lands.....	247,259	.....
Payment of interest by Pacific Railways.....	1,316,517	1,773,466
Sales of Government property.....	450,698	.....
Sales of lands and buildings.....	236,898	3,842,738
Sales of ordnance material.....	703,054	.....
Sales of Indian lands.....	1,493,321	1,384,663
Sales of public lands.....	2,965,120	2,836,883
Tax on sealskins and rent of seal islands.....	232,655	.....
Part payment Pacific Railroad indebtedness.....	4,576,247	3,338,016
Sale of claim of United States against Sioux City and Pacific Railroad.....	2,122,841	.....
Immigrant fund.....	585,083	537,405
Prize money to captors Spanish War.....	217,491	.....
Prize money to Navy Pension fund, Spanish War.....	217,478	.....
Miscellaneous.....	1,066,282	3,224,352
Postal service.....	111,631,193	102,354,579
Total ordinary receipts.....	\$699,316,531	\$669,595,431
Loans and Treasury notes.....	218,978,610	510,558,056
Gross receipts.....	\$918,295,141	\$1,180,153,487

The following tables show in detail the assets and liabilities of the Treasury for years ending Dec. 31, 1900, and the same date in 1901:

ASSETS.	YEAR ENDING DEC. 31,	
	1901.	1900.
Gold coin and bullion.....	\$540,797,603	\$479,349,251
Silver dollars or bullion.....	496,718,814	493,766,951
United States notes.....	5,514,630	12,093,521
Treasury notes (1890).....	156,263	166,841
National bank notes.....	10,433,450	7,952,650
Balances in national-bank depositories.....	112,653,534	96,699,694
Gold certificates.....	38,788,020	30,841,450
Silver certificates.....	6,594,108	5,026,597
Bonds and interest checks paid.....	678,188	449,810
Currency certificates.....	.....	30,000
Minor coins and fractional notes.....	382,824	448,777
Subsidiary silver coins.....	6,914,287	4,446,010
Total.....	\$1,219,631,721	\$1,131,271,552

LIABILITIES.	YEAR ENDING DEC. 31,	
	1901.	1900.
Gold certificates.....	\$316,785,089	\$263,629,379
Silver certificates.....	456,087,000	427,426,000
Currency certificates (1872).....	.....	1,560,000
Treasury notes (1890).....	38,596,000	61,397,000
Redemption national - bank notes.....	14,362,521	14,149,392
Public disbursing officers.....	55,851,940	57,174,812
Outstanding checks and drafts.....	5,438,170	5,781,008
Post-Office Department account.....	7,588,505	7,276,379
Miscellaneous items.....	3,319,218	2,770,246
Reserve fund.....	150,000,000	150,000,000
Available cash balance.....	171,603,278	140,107,336
Total.....	\$1,219,631,721	\$1,131,271,552

EXPENDITURES.

OBJECTS.	YEAR ENDING JUNE 30,	
	1901.	1900.
Civil.....	\$259,453,334	\$241,457,364
Foreign intercourse.....	3,417,000	3,414,803
Military establishment:		
National defense.....	500,233	1,252,517
Pay department.....	37,890,967	4,722,100
Commissary department.....	12,764,957	10,412,632
Quartermaster's department.....	48,010,866	14,112,881
Medical department.....	2,400,085	2,214,255
Ordnance department.....	4,219,245	3,191,622
Armament of fortifications.....	4,658,723	4,367,113
Gun and mortar batteries.....	1,742,610	2,940,017
Improving rivers and harbors.....	19,544,474	18,718,805
Signal service of the army.....	446,699	225,583
Support of national homes.....	3,276,709	2,849,631
Other items.....	8,754,108	8,804,489
Naval establishment:		
National defense.....	203,896	1,045,064
Pay, etc., of the navy.....	12,674,724	11,391,941
Marine corps.....	2,318,064	1,798,872
Ordnance.....	3,097,203	3,659,204
Equipment.....	4,060,523	3,329,324
Yards and docks.....	5,294,179	4,476,759
Medicine and surgery.....	403,893	286,799
Supplies and accounts.....	3,573,120	3,518,421
Construction and repair.....	7,810,405	5,781,246
Steam engineering.....	3,542,627	2,531,550
Increase of the navy.....	15,202,578	14,398,255
General account of advances.....	.....	1,398,140
Other items.....	2,325,766	2,337,502
Miscellaneous:		
Public printing and binding.....	4,937,388	4,586,211
Assessing and collecting internal revenue.....	4,278,479	4,330,135
Mint establishment.....	1,675,347	1,255,916
Collecting customs revenue.....	7,793,902	7,545,515
Revenue-cutter service.....	1,256,551	1,229,338
Life-saving service.....	1,650,907	1,579,128
Marine-hospital establishment.....	1,240,192	982,496
Lighthouse establishment.....	3,638,899	3,556,841
Engraving and printing.....	2,058,598	1,807,170
Custom-houses, post-offices, etc.....	6,781,369	6,346,658
Pay of custodians and janitors.....	1,033,552	976,268
Fuel, light, and water—public buildings.....	869,317	874,811
Furniture and apparatus—public buildings.....	465,732	336,348
District of Columbia.....	8,748,323	7,108,582
Deficiency in postal revenues.....	4,954,762	7,230,779
Department of Agriculture.....	2,900,653	2,636,074
Weather Bureau.....	1,063,244	989,776
Expenses of the twelfth census.....	7,809,998	.....
Indians.....	10,896,073	10,175,107
Pensions.....	139,323,622	140,877,316
Interest on public debt.....	32,342,979	40,160,333
Postal service.....	111,631,193	102,354,579
Other items.....	30,642,318	24,750,858
Total ordinary expenditures.....	\$621,598,456	\$590,068,371
Premiums.....	14,649,573	33,147,055
Redemption of public debt.....	212,620,768	365,582,271
Gross expenditures.....	\$848,868,797	\$988,797,697

The following table shows the amount of money in circulation Jan. 1, 1902, and on the same date in 1901:

CHARACTER OF MONEY.	AMOUNT IN CIRCULATION JAN. 1,	
	1902.	1901.
Gold coin (including bullion in Treasury).....	\$635,374,550	\$629,192,578
Gold certificates.....	277,997,069	232,787,929
Standard silver dollars.....	73,239,986	76,182,326
Silver certificates.....	449,492,892	422,399,403
Subsidiary silver.....	85,061,094	83,123,463
Treasury notes of 1890.....	38,439,737	61,230,159
United States notes.....	341,166,386	334,587,495
Currency certificates, act of June 8, 1872.....	.....	1,560,000
National-bank notes.....	349,856,276	332,188,536
Total.....	\$2,250,627,990	\$2,173,251,879

Of the money in circulation outside of the Treasury, there was an increase during the year of more than \$41,000,000 in gold coin and certificates. There was also an increase in the amount

of silver certificates in circulation of about \$27,000,000. This latter increase was mainly due to the issue of certificates for the silver dollars coined as required by law from the bullion purchased under the act of 1890, for which the Treasury notes were issued in payment. Under the law, this coinage must go on until the bullion thus purchased has all been coined and the Treasury notes have been withdrawn from circulation and canceled silver certificates have taken their place.

Of the coinage at the several mints, there was a decrease in the value of the gold coins and an increase in that of the silver. There were coined during the year more than 24,000,000 silver dollars, an increase of about 6,000,000 over the amount for the previous year. The following table shows the value of the coinage in detail:

DENOMINATIONS.	1901.	1900.
Double-eagles.....	\$52,800,820	\$78,492,700
Eagles.....	31,300,880	21,779,340
Half-eagles.....	14,863,115	7,529,655
Quarter-eagles.....	100,900	136,015
Total gold.....	\$99,065,715	\$107,937,110
Standard silver dollars.....	\$24,298,850	\$18,244,984
Lafayette souvenir dollars.....		50,000
Half-dollars.....	4,641,425	5,344,858
Quarter-dollars.....	3,674,378	4,815,892
Dimes.....	2,650,845	2,716,099
Total silver.....	\$35,265,498	\$31,171,833
Five-cent nickel.....	\$1,344,106	\$1,537,499
One-cent bronze.....	665,462	705,518
Total minor.....	2,009,568	\$2,243,017
Grand total.....	\$136,340,781	\$141,351,960

The Twelfth Census.—No census of the United States was ever planned so far in advance as was the twelfth. While the high scientific value of the tenth and eleventh censuses is beyond question, the practical utility of their results was seriously impaired by the delay unavoidable under the law attending their publication. This difficulty was felt by students of the social and economic problems, data for which were collected in those censuses, and especially by politicians and those who use statistics for more popular purposes and are in consequence prone to exaggerate the loss and inconvenience growing out of belated publication. This difficulty, and others less apparent, led to concerted efforts to secure a permanent census bureau, and when these proved unsuccessful, to extra legal efforts to improve the situation. Committees of the American Statistical Association and the American Economic Association led in these efforts, and by joint action formulated a plan for the twelfth census which had a material influence in determining its final scope. A bill embodying much of this plan was prepared by the Commissioner of Labor, and with modifications was finally adopted. This result was not secured, however, until after delays in Congress that were exceedingly disappointing to those most intelligently anxious to secure a satisfactory census, and the bill did not become a law until the closing day of the congressional session of 1899. The head of the new office was appointed on March 4, 1899, which was relatively about one month earlier than his predecessor of the eleventh census. Whatever was gained in the degree of preparation for the twelfth over the preceding census is attributable to the efforts of patriotic citizens not in public employment and to the diligence of the officers of the later census after their appointment.

The act providing for the twelfth census differs in notable particulars from legislation providing for earlier censuses. No census office has been an independent bureau, but each has been connected with some previously existing executive department and under the supervision of a Cabinet officer. The present law makes the Census Office a bureau of the Interior Department, but the relation is nominal; the director possesses plenary power of appointment and removal, he has full control over the schedules, and his decisions in regard to scientific or administrative questions are not subject to review by any officer of Government. The present Census Office is the first American bureau of the kind to enjoy practical and substantial independence.

The enormous range of inquiries undertaken in previous censuses is generally believed to have constituted a hindrance to the prompt and satisfactory completion of the investigations universally regarded as most important. This evil was remedied, in the law providing for the twelfth census, by the omission of certain inquiries and the postponement of others until after the completion of those regarded as most urgent. In accordance with the law, therefore, the work of the twelfth census up to the present time has been confined, with the exception of a few inquiries concerning the deaf, dumb, and blind, authorized by an amendment to the original act of Congress, to the four great investigations relating respectively to population, agriculture, manufactures, and vital statistics. The statute provides, further, that the statistics relating to these subjects collected in the census shall be examined, tabulated, arranged, analyzed, and the final reports "published not later than the first day of July, 1902." The postponed inquiries, not to be taken up until "after the completion and return of the enumeration and of the work until the schedules relating to the products of agriculture and to manufacturing and mechanical establishments" will relate to the insane; feeble-minded; deaf, dumb, and blind; crime, pauperism, and benevolence; deaths and births in registration areas; social statistics of cities; public indebtedness, valuation, taxation, and expenditures; religious bodies; electric light and power; telephone and telegraph business; transportation by water; express business; street-railways; and mines, mining, and minerals. The principal subjects included in the eleventh census that are omitted from the twelfth are railway transportation, insurance, fish and fisheries, and mortgage indebtedness.

The area covered by the twelfth census is greater than that covered by any of its predecessors, as it includes all regions under the civil government of the United States, and thus extends to the Hawaiian Islands. It also includes the first attempt to treat Indian Territory similarly to other portions of the United States. Censuses of Porto Rico and Cuba were taken at substantially the same time as the Federal census, but those islands were under the military government of the United States, and the enumerations were under the direction of the War Department, and not in any way within the control of the Census Office.

The Hon. William R. Merriam, formerly Governor of Minnesota, a business man of extensive experience, was made director of the census and has had as his scientific staff Dr. Frederick H. Wines, assistant director; William C. Hunt, Dr. Le Grand Powers, S. N. D. North, William A. King, and Dr. Walter F. Willcox, chief statisticians; and Col. J. S. Lord, Harry T. Newcomb, William

M. Steuart, Whitman Osgood, Hart Momsen, and Wm. H. Jarvis, expert chiefs of division. Edward W. Koch and Henry Gannett, geographer, U. S. Geological Survey, have supervised the highly important work of the geographical division, which has been under the direct charge of Charles S. Sloane, as geographer of the census.

Population.—For enumeration, the continental territory of the United States was divided into 297 supervisors' districts, which were subdivided so as to make a total of approximately 53,000 enumeration districts. The enumeration was taken as of June 1, 1900, but enumerators were allowed two weeks in cities of 8,000 inhabitants or more, and thirty days elsewhere, beginning with that date, to complete their work. The electrical tabulating device, invented by Dr. Herman Hollerith, and first used in the eleventh census, was again used in the tabulation of the population returns. Nearly 2,000 clerks, principally young women, were assigned, as soon as the schedules were received, to the work of punching the individual cards required by this system of tabulation, and the results, afterward slightly modified by corrections, of the count of the population were available and published on Nov. 27, 1900.

The population of the several States and Territories, thus ascertained, was given in the Annual Cyclopædia for 1900.

Every State and Territory, except Nevada, sustained an increase of population during the decade between the eleventh and twelfth censuses. The average gain was 21.0 per cent., and included gains as high as 518.2 per cent. for Oklahoma; 117.6 for Indian Territory; 88.6 for Idaho; and 75.2 for Montana. The lowest percentages of gain were 0.7 per cent. for Nebraska, 2.9 for Kansas, 3.4 for Vermont, and 5.0 for Maine. The loss for Nevada was 11.1 per cent.

The highest absolute increases were 1,265,257 for New York, 1,044,020 for Pennsylvania, 995,199 for Illinois, and 813,187 for Texas; the lowest, 7,390 for Nebraska, 11,219 for Vermont, and 16,242 for Delaware. Nevada lost 5,099.

Of the total increase, 27.5 per cent. accrued to the North Atlantic States, which, however, gained but 20.9 per cent. over their population in 1890. The South Atlantic States received 12.0 per cent. of the total increment of the country during the decade, but their own gain was 17.9 per cent. of their population when it began. The percentages for the States of the North Central division were 29.6 and 17.5 respectively; those for the South Central division 22.0 and 26.1, and the population of the Western division increased 31.9 per cent. over 1890, although they received but 7.5 per cent. of the total increase for the country. Five States gained more than 500,000 inhabitants, and received altogether 35.4 per cent. of the total gain for the country. In 1890 these States contained 31 per cent. of the total population; in 1900 they contained 31.8 per cent. The 10 States of New York, Pennsylvania, Illinois, Texas, Massachusetts, Ohio, Minnesota, New Jersey, Missouri, and Wisconsin had the highest numerical gain, and in the aggregate obtained 51.9 per cent. of the total increase. Their total gain amounted to 22.6 per cent., and their proportion of the total population increased between 1890 and 1900 from 48.1 to 48.8 per cent.

Changes in rank according to population have not been numerous, but some of them are significant. The first 5 States in the order of population—viz., New York, Pennsylvania, Illinois, Ohio, and Missouri—retain the places they held in 1890. Texas, which was seventh in 1890, has

changed places with Massachusetts, which was sixth. Then follow Indiana, Michigan, and Iowa in the same order as in 1890. Georgia and Kentucky, which were eleventh and twelfth respectively in 1890, have exchanged place, and also Tennessee and Wisconsin, which were thirteenth and fourteenth. Virginia, which was fifteenth in 1890, is now seventeenth, having been passed by North Carolina, which was sixteenth, and New Jersey, which was eighteenth. New Jersey has also passed Alabama, which has dropped from seventeenth to eighteenth. Kansas, which was nineteenth in 1890, has gone to the twenty-second place, having been passed by Minnesota, Mississippi, and California. Louisiana has gone ahead of South Carolina and Arkansas, while Maryland has passed above Nebraska. West Virginia is the twenty-eighth State in population, and is followed by Connecticut, Maine, Colorado, and Florida, all holding the same rank that they had ten years ago. New Hampshire has been passed by Washington, Rhode Island, and Oregon, and is now thirty-sixth instead of thirty-third. Vermont is now fortieth and is below Oregon, South Dakota, Oklahoma, and Indian Territory, all of which it outranked in 1890. Oregon, which was thirty-eighth, is now thirty-fifth. Oklahoma is thirty-eighth instead of forty-sixth, and Indian Territory has become thirty-ninth. Nevada, which had a greater population than Alaska in 1890, has fallen to the lowest place.

With the exception of the District of Columbia, which embraces a population almost wholly urban, the highest density of population is for Massachusetts, which has 348.9 persons to the square mile, New Jersey follows with 250.3, Connecticut with 187.5, New York with 152.6, Pennsylvania with 140.1, Maryland with 120.5, and Ohio with 102.0. No other State has as many as 100 persons to the square mile. The highest west of the Mississippi river is 45.2 in Missouri, and the next highest 40.2 in Iowa.

The inhabitants of the United States have been classified according to race, sex, and general nativity as follow:

CLASS.	Males.	Females.	Total.
<i>White.</i>			
Native:			
Of native parents.....	20,934,099	20,119,318	41,053,417
Of foreign parents.....	7,869,089	7,818,233	15,687,322
Foreign.....	5,545,833	4,704,230	10,250,063
<i>Colored.</i>			
Negro or of negro descent..	4,393,221	4,447,568	8,840,789
Chinese.....	111,054	7,996	119,050
Japanese.....	71,386	14,600	85,986
Indians.....	134,560	132,200	266,760
Total.....	39,059,242	37,244,145	76,303,387

The percentage of foreign-born persons in the country to the total population, as shown in the twelfth census, is 13.7. There are 7 States, in which the population of foreign birth is more than one-fourth of the total number of inhabitants. These are Massachusetts, 30.2 per cent.; Rhode Island, 31.4; Connecticut, 26.2; New York, 26.1; Minnesota, 28.9; North Dakota, 35.4; and Montana, 27.6.

Eighty-nine per cent. of all the persons who are classified as negroes are in the 14 States that have more than 160,000 such inhabitants. Only one other State, Pennsylvania, with 156,845, has as many as 100,000 negroes. Seven States have more than 50,000 but fewer than 100,000; while 8 have more than 10,000 but fewer than 50,000. The following table includes the States having more than 160,000 negroes:

STATE.	Total population in 1900.	NEGROES.	
		Number.	Per cent. of total population of each State.
Georgia.....	2,216,331	1,034,813	46.7
Mississippi.....	1,551,270	907,630	58.5
Alabama.....	1,828,697	827,307	45.2
South Carolina.....	1,340,316	782,321	58.4
Virginia.....	1,854,184	660,722	35.6
Louisiana.....	1,381,625	650,804	47.1
North Carolina.....	1,893,810	624,469	33.0
Texas.....	3,048,710	620,732	20.4
Tennessee.....	2,020,616	480,243	23.8
Arkansas.....	1,311,564	366,856	28.0
Kentucky.....	2,147,174	244,706	13.3
Maryland.....	1,188,044	235,064	19.8
Florida.....	528,542	230,730	43.6
Missouri.....	3,106,665	161,234	5.2
Total.....	25,417,548	7,867,621	31.0

The aggregate number of negroes and persons of negro descent now exceeds the number of white inhabitants in but two States—Mississippi and South Carolina—while in every State except Mississippi, Alabama, Tennessee, and Florida, the white population increased more rapidly between 1890 and 1900 than the negro population.

The percentage of the total population made up of white persons born in this country of native parents is higher in every State in the foregoing table—including Mississippi, the State in which the proportion of negroes to whites is the greatest—than in Massachusetts, Rhode Island, New York, Wisconsin, Minnesota, North Dakota, South Dakota, Montana, Arizona, Utah, or Nevada. Kentucky, which has 13.3 per cent. of its population of negro origin, has a larger proportion of native whites of native parentage than any other State except West Virginia, and any Territory except Oklahoma.

In the last decade the so-called "center of population" has moved westward 16' 1", or about 14 miles, and southward 2' 20", or about 2½ miles. It lies now in southern Indiana, at a point about 6 miles southeast of Columbus, the county-seat of Bartholomew County. It should not be supposed that the westward movement of this center is the result of the migration of population alone. It is influenced also by the locations adopted by immigrants and by the varying birth and death rates of different regions.

The growth of urban population between 1880 and 1890 was properly regarded as one of the most interesting facts established by the eleventh census. The tabulations of the twelfth census show that the impetus toward concentration of population is still working, although with slightly diminished force.

YEAR.	Total population.	URBAN POPULATION.			PLACES OF 8,000 POPULATION OR MORE.	
		Number.	Per cent of total.	Per cent increase.	Number.	Average.
1790...	3,929,214	131,472	3.4	...	6	21,912
1800...	5,308,483	210,873	4.0	60.4	6	35,146
1810...	7,239,881	356,920	4.9	69.3	11	32,447
1820...	9,638,453	475,135	4.9	33.1	13	36,549
1830...	12,866,020	864,509	6.7	82.0	26	35,250
1840...	17,069,453	1,453,994	8.5	68.2	44	33,045
1850...	23,191,876	2,897,586	12.5	99.3	85	34,069
1860...	31,443,321	5,072,256	16.1	75.1	141	35,973
1870...	38,558,371	8,071,875	20.9	59.1	226	35,716
1880...	50,155,783	11,318,547	22.6	40.2	286	39,575
1890...	62,622,250	18,272,503	29.2	61.4	447	40,878
1900...	75,468,039	24,092,199	33.1	36.8	545	45,857

The above table shows the relation of urban population to the total, regarding as urban the residents of all villages and cities of 8,000 in-

habitants or more. Hawaii, Indian Territory, and Alaska are not included.

The percentage of urban population is highest in Rhode Island, where it is 81.2 of the total. In Massachusetts 76.0 per cent. of the population is urban; in New York, 68.5; in New Jersey, 61.2, and in Connecticut 53.2. No other State includes as much as 50 per cent. of urban population. The twelfth census enumerated 3,380,193 persons who resided in 612 towns or cities having as many as 4,000 but fewer than 8,000 inhabitants. Considering these also as urban residents, the percentage of the total population regarded as urban becomes 37.3.

Nearly half of the urban population is in the States on the northern Atlantic seaboard (including Vermont), while more than 80 per cent. is in Northern States. And during the decade reported urban population grew much faster than rural in every section of the country.

The following table shows the cities having more than 25,000 inhabitants in 1900, together with their population in 1890:

CITIES.	POPULATION.	
	1890.	1900.
New York, N. Y.....	2,492,591	3,437,202
Chicago, Ill.....	1,099,850	1,698,575
Philadelphia, Pa.....	1,046,964	1,293,697
St. Louis, Mo.....	451,770	575,238
Boston, Mass.....	448,477	560,892
Baltimore, Md.....	434,439	508,957
Cleveland, Ohio.....	261,353	381,768
Buffalo, N. Y.....	255,664	352,387
San Francisco, Cal.....	298,997	342,782
Cincinnati, Ohio.....	296,908	325,902
Pittsburg, Pa.....	238,617	321,616
New Orleans, La.....	242,039	287,104
Detroit, Mich.....	205,876	285,704
Milwaukee, Wis.....	204,468	285,315
Washington, D. C.....	230,392	278,718
Newark, N. J.....	181,830	246,070
Jersey City, N. J.....	163,003	206,438
Louisville, Ky.....	161,129	204,731
Minneapolis, Minn.....	164,738	202,718
Providence, R. I.....	132,146	175,597
Indianapolis, Ind.....	105,436	169,164
Kansas City, Mo.....	132,716	163,752
St. Paul, Minn.....	133,156	163,065
Rochester, N. Y.....	133,896	162,608
Denver, Col.....	106,713	133,859
Toledo, Ohio.....	81,434	131,822
Allegheny, Pa.....	105,287	129,896
Columbus, Ohio.....	88,150	125,560
Worcester, Mass.....	84,655	118,421
Syracuse, N. Y.....	88,143	108,374
New Haven, Conn.....	81,298	108,027
Paterson, N. J.....	78,347	105,171
Fall River, Mass.....	74,398	104,863
St. Joseph, Mo.....	52,324	102,979
Omaha, Neb.....	140,452	102,555
Los Angeles, Cal.....	50,395	102,479
Memphis, Tenn.....	64,495	102,320
Scranton, Pa.....	75,215	102,026
Lowell, Mass.....	77,696	94,969
Albany, N. Y.....	94,923	94,151
Cambridge, Mass.....	70,028	91,886
Portland, Ore.....	46,385	90,426
Atlanta, Ga.....	65,533	89,872
Grand Rapids, Mich.....	60,278	87,565
Dayton, Ohio.....	61,220	85,333
Richmond, Va.....	81,388	85,050
Nashville, Tenn.....	76,168	80,865
Seattle, Wash.....	42,837	80,671
Hartford, Conn.....	53,290	79,850
Reading, Pa.....	58,661	78,961
Wilmington, Del.....	61,431	76,508
Camden, N. J.....	58,313	75,935
Trenton, N. J.....	57,458	73,307
Bridgeport, Conn.....	48,866	70,996
Lynn, Mass.....	55,727	68,513
Oakland, Cal.....	48,682	66,960
Lawrence, Mass.....	44,654	62,559
New Bedford, Mass.....	40,733	62,442
Des Moines, Iowa.....	50,093	62,139
Springfield, Mass.....	44,179	62,059
Somerville, Mass.....	40,152	61,643
Troy, N. Y.....	60,956	60,651
Hoboken, N. J.....	43,648	59,364
Evansville, Ind.....	50,756	59,007
Manchester, N. H.....	44,126	56,987
Utica, N. Y.....	44,007	56,388

CITIES.	POPULATION.	
	1890.	1900.
Peoria, Ill.	41,024	56,100
Charleston, S. C.	54,955	55,807
Savannah, Ga.	43,189	54,244
Salt Lake City, Utah	44,843	53,531
San Antonio, Texas.	37,673	53,321
Duluth, Minn.	33,115	52,969
Erie, Pa.	40,634	52,733
Elizabeth, N. J.	37,764	52,130
Wilkesbarre, Pa.	37,718	51,721
Kansas City, Kan.	38,316	51,418
Harrisburg, Pa.	39,385	50,167
Portland, Me.	36,425	50,145
Yonkers, N. Y.	32,033	47,931
Norfolk, Va.	34,871	46,624
Waterbury, Conn.	28,646	45,859
Holyoke, Mass.	35,637	45,712
Fort Wayne, Ind.	35,393	45,115
Youngstown, Ohio.	33,220	44,885
Houston, Texas.	27,557	44,633
Covington, Ky.	37,371	42,938
Akron, Ohio.	27,601	42,728
Dallas, Texas.	38,067	42,638
Saginaw, Mich.	46,322	42,345
Lancaster, Pa.	32,011	41,459
Lincoln, Neb.	55,154	40,169
Brockton, Mass.	27,294	40,063
Binghamton, N. Y.	35,005	39,647
Augusta, Ga.	33,300	39,441
Honolulu, Hawaii.	22,907	39,306
Pawtucket, R. I.	27,633	39,231
Altoona, Pa.	30,337	38,973
Wheeling, W. Va.	34,522	38,878
Mobile, Ala.	31,076	38,469
Birmingham, Ala.	26,178	38,415
Little Rock, Ark.	25,874	38,307
Springfield, Ohio	31,895	38,253
Galveston, Texas.	29,084	37,789
Tacoma, Wash.	36,006	37,714
Haverhill, Mass.	27,412	37,175
Spokane, Wash.	19,922	36,848
Terre Haute, Ind.	30,217	36,673
Dubuque, Iowa.	30,311	36,297
Quincy, Ill.	31,494	36,252
South Bend, Ind.	21,819	35,999
Salem, Mass.	30,801	35,956
Johnstown, Pa.	21,805	35,936
Elmira, N. Y.	30,893	35,672
Allentown, Pa.	25,228	35,416
Davenport, Iowa.	26,872	35,254
McKeesport, Pa.	20,741	34,227
Springfield, Ill.	24,963	34,159
Chelsea, Mass.	27,909	34,072
Chester, Pa.	20,226	33,988
York, Pa.	20,793	33,708
Malden, Mass.	23,031	33,664
Topeka, Kan.	31,007	33,608
Newton, Mass.	24,379	33,587
Sioux City, Iowa.	37,806	33,111
Bayonne, N. J.	19,033	32,722
Knoxville, Tenn.	22,535	32,637
Schenectady, N. Y.	19,902	31,682
Fitchburg, Mass.	22,037	31,531
Superior, Wis.	11,983	31,091
Rockford, Ill.	23,584	31,051
Taunton, Mass.	25,448	31,036
Canton, Ohio	26,189	30,667
Butte, Mont.	10,723	30,470
Montgomery, Ala.	21,883	30,346
Auburn, N. Y.	25,858	30,345
Chattanooga, Tenn.	29,100	30,154
East St. Louis, Ill.	15,169	29,655
Joliet, Ill.	23,264	29,335
Sacramento, Cal.	26,386	29,282
Racine, Wis.	21,014	29,102
La Crosse, Wis.	25,090	28,895
Williamsport, Pa.	27,132	28,757
Jacksonville, Fla.	17,201	28,429
New Castle, Pa.	11,600	28,339
Newport, Ky.	24,918	28,301
Oshkosh, Wis.	22,836	28,284
Woonsocket, R. I.	20,830	28,204
Pueblo, Col.	24,558	28,157
Atlantic City, N. J.	13,055	27,838
Passaic, N. J.	13,028	27,777
Bay City, Mich.	27,839	27,628
Fort Worth, Texas.	23,076	26,688
Lexington, Ky.	21,567	26,369
Gloucester, Mass.	24,651	26,121
Joplin, Mo.	9,943	26,023
South Omaha, Neb.	8,062	26,001
New Britain, Conn.	16,519	25,998
Council Bluffs, Iowa.	21,474	25,802
Cedar Rapids, Iowa.	18,020	25,656
Easton, Pa.	14,481	25,238
Jackson, Mich.	20,798	25,180

Eighty-one, or exactly half of the cities in the foregoing table, are in the States (including Pennsylvania and the District of Columbia) on the Atlantic seaboard.

Of the total population represented by the 161 cities in 1900 (19,757,618), 10,098,636, or 51.1 per cent., were contained in the 70 cities in the North Atlantic division, and 6,097,884, or 30.9 per cent., in the 49 cities in the North Central division.

New York is the first city of the country in the number of its inhabitants, a place which it has held at every census, beginning with that of the year 1790. Chicago, with practically 1,700,000 inhabitants, and Philadelphia, with not quite 1,300,000, hold the second and third places in 1900 as they did in 1890, although at the census of 1880 their positions were the reverse, Philadelphia then having very nearly 850,000 inhabitants compared with not much more than 500,000 for Chicago. St. Louis, Boston, and Baltimore, the next largest cities, have not changed their ranks in 1900, and each of these three cities now has a population somewhat in excess of 500,000. Boston was a fourth city in rank in 1880, but was passed by St. Louis in 1890, while Baltimore has occupied the sixth place at each of the three census periods considered. Cleveland and Buffalo have both increased materially in population during the past ten years, and now take precedence over San Francisco and Cincinnati, which in 1890 occupied the seventh and eighth places. Pittsburg also shows a large increase in population since 1890, and is now the eleventh city in the country, having exchanged places with New Orleans.

The Supreme Court.—There is but one term of the court each year, beginning on the second Monday of October. The number of cases docketed and pending at the October term, 1900, was 723, of which 377 were disposed of during the term. The number actually considered by the court was 368, of which 179 were argued orally and 152 were submitted on printed arguments. Among the cases of general interest decided were the following:

The Neely Case.—The case of *Neely vs. Henkel* involved the relations between the United States and Cuba, and was decided Jan. 14, 1901. Neely was charged with embezzling public funds in Cuba while acting as financial agent of the Department of Posts of that island. The case involved the right of the Cuban authorities to extradite him for trial in Cuba. By act of June 6, 1900, the provisions of United States Revised Statutes, section 5270, were extended to foreign countries "occupied by or under the control of the United States." After a careful review of the relations of Cuba to the United States resulting from the Spanish-American War, the court said: "The facts above detailed make it clear that within the meaning of the act of June 6, 1900, Cuba is foreign territory. It can not be regarded in any constitutional, legal, or international sense a part of the territory of the United States." The court unanimously directed the extradition of Neely to Cuba.

Stamp Tax on Export Bills of Lading.—*Fairbank vs. United States* was decided April 15, 1901.

The Northern Pacific Railway Company and Frank M. Fairbank, its agent, were charged with refusal to affix a 10-cent revenue stamp to certain export bills of lading under Schedule A of the war-revenue act. The case was tried in the United States district court at Minneapolis, Minn., before a jury, and a verdict of guilty was rendered against both the company and its agent, and a fine of \$25 was imposed upon each of the de-

defendants. A writ of error was issued to the Supreme Court of the United States, where it was decided that the tax was in contravention of the Constitution requiring that "no tax or duty shall be laid on articles exported from any State." The substance of the decision was as follows: "We are of the opinion that a stamp tax on a foreign bill of lading is in substance and effect equivalent to a tax on the articles included in that bill of lading." Justices Harlan, Gray, White, and McKenna dissented. The dissenting opinion said: "We submit that the denial, at this late day, of the power of Congress to impose what is strictly a stamp-duty on the vellum, parchment, or paper upon which is written or printed a bill of lading for goods to be exported to a foreign port or place, involves not only a departure from canons of constitutional construction by which it has been controlled for more than a century, but, in the words of *Prigg vs. Commonwealth*, delivers the interpretation of the Constitution 'over to interminable doubt throughout the whole progress of legislation and of national operations.' Practically no weight has been given in the opinion just filed to the fact that the power now denied to Congress has been exercised since the organization of the Government, without any suggestion or even intimation by a single jurist or statesman during all that period that the Constitution forbade its exercise."

Tax on Calls.—A suit was instituted in the southern district of New York by S. V. White against Charles H. Treat, collector of internal revenue, to recover stamp tax paid by the plaintiff on stock transactions denominated as "calls." This tax was collected in accordance with an opinion rendered by the Attorney-General April 27, 1899, that they were liable under Schedule A, act of June 13, 1898. The case was taken to the United States Circuit Court of Appeals and certified to the United States Supreme Court, which rendered a decision April 29, 1901, holding that a "call" is an agreement to sell, and therefore subject to taxation at the rate of 2 cents for each \$100 in value.

Constitutionality of State Laws.—In the case of *McDonald vs. Massachusetts*, the court decided, Feb. 25, that the statute of Massachusetts of 1887, by which "whoever has been twice convicted of crime, sentenced, and committed to prison, in this or any other State, or once in this and once at least in any other State, for terms of not less than three years each, shall, upon conviction of a felony committed in this State, after the passage of this act, be deemed to be an habitual criminal, and shall be punished by imprisonment in the State prison for twenty-five years," is constitutional. The statute imposing a punishment on none but future crimes is not *ex post facto*.

State Quarantine Laws.—The case of *W. P. Smith vs. the St. Louis and Southwestern Railway Company*, decided April 22, 1901, involved the constitutionality of quarantine regulations of Texas in 1897, against the importation of cattle. The shipment of cattle involved was made from Plaindealing, La., to Fort Worth, Texas, the officials of the road being unaware that a quarantine had been established. When the regulations became known, the railroad company refused to deliver the cattle to the consignee, and reshipped them to Plaindealing. Smith refused to receive them, and brought suit for damages, contending that the regulations were an interference with interstate commerce. The State court of appeals decided in favor of the railroad company, which decision was upheld by the Supreme Court, on the ground that the State has a right, under its

police power, to protect itself against infectious disease, even though commerce may be incidentally interfered with. Justices Harlan, White, and Brown dissented.

In the case of *Rasmussen vs. the State of Nevada*, the court affirmed the constitutionality of the law of the State of Idaho authorizing a quarantine against sheep from other States supposed to be affected by an infectious disease. The statute contemplated solely the protection of sheep of that State from the introduction among them of an infectious disease, and provided for such restraint upon the introduction of sheep from other States as in judgment of the State was necessary to prevent the spread of disease. The act was considered a purely quarantine act, and its constitutionality was sustained.

Kansas City Stock-Yards.—The case of *Cotting et al. vs. Godard*, decided Nov. 25, 1901, involved the validity of the State law of Kansas empowering the State authorities to fix rates of charges on stock in stock-yards in that State. The court held that the law was invalid because it applied only to the Kansas City Stock-Yards Company and not to other companies engaged in like business in the State, and was in conflict with the equal-protection clause of the fourteenth amendment.

Chinese Residents.—The case of *Li Sing vs. United States* was decided March 18, 1901. Li Sing was a Chinaman who, after residing for years in the United States, returned temporarily to China, taking with him a certificate purporting to have been issued by the Imperial Government of China at its consulate in New York, and signed by its consul, stating that he was permitted to return to the United States, that he was entitled to do so, and that he was a wholesale grocer. On his return to the United States by way of Canada, he presented this certificate to the United States collector of customs at Malone, N. Y., who canceled it and permitted him to enter the country. Subsequently he was brought before a commissioner of the United States for the southern district of New York, charged with having unlawfully entered the United States, being a laborer. At the examination he set up that he had a right to remain here, and that he was a merchant. The commissioner found that on his departure from the United States he was, and had long been, a laborer, and ordered his deportation. Held, that the decision of the collector at Malone was not final, and that, by the act of Oct. 1, 1888, the certificate issued to him by the Chinese consul on his departure from the United States was annulled.

Controversies between States.—In the case of *Missouri vs. Illinois* and the sanitary district of Chicago, the State of Missouri had filed a bill against the State of Illinois and the sanitary district of Chicago, asking an injunction restraining the defendants from receiving or permitting sewage to be received or discharged into the artificial channel or drain constructed by the sanitary district of Chicago under authority derived from the State, in order to draw off and discharge into the Mississippi river the sewage of Chicago, and from permitting the same to flow through said channel or drain into the Des Plaines river, and thence by the Illinois river into the Mississippi. The bill did not assail the drainage canal as an unlawful structure, nor aim to prevent its use as a waterway, but its object was to obtain relief against the pouring of sewage and filth through it into the Mississippi river, to the detriment of the State of Missouri and her inhabitants. The opinion reviewed the decisions of the Supreme Court on the question of its jurisdiction in con-

troversies between the States, and held that the demurrer could not be sustained, and the same was overruled and leave was given to the defendants to file answer to the bill. The Chief Justice and Justices Harlan and White dissented.

Divorces.—April 15, 1901, the court decided 3 cases involving the validity in one State of divorce decrees granted in other States. In *Ather-ton vs. Atherton*, the husband and wife had been domiciled in Kentucky. The wife left the husband and returned to her mother's home in New York. The husband obtained a divorce in a Kentucky court, on the ground of abandonment. Notice was served upon the wife in accordance with the laws of Kentucky, by mailing to her address a copy of the petition. Subsequently the wife, in the New York court, applied for a divorce, and the New York Court of Appeals held that the Kentucky decree was no bar to the suit. This was reversed by the Supreme Court, Chief-Justice Fuller and Justice Peckham dissenting. In this case, the divorce in Kentucky was by the court of the State which had always been the undoubted domicile of the husband, and which was the only matrimonial domicile of the husband and wife. The question was as to the validity of that divorce, granted after notice had been given as required by the statutes of Kentucky. As the proceeding was regular, the decree was entitled to as great credit by the courts of New York as it receives in Kentucky.

The other two cases also came from New York. In *Bell vs. Bell*, the question of the validity of a decree granted to the husband in Pennsylvania was raised, and in *Streilwolf vs. Streilwolf* the same question concerning a decree granted to the husband in North Dakota. In both cases the decrees were held to be invalid because neither the husband nor the wife had domicile in the State in which the divorce was granted.

The Insular Cases.—The court, May 27, 1901, handed down its decisions in five of the so-called "insular cases" which had been argued before it some time previously, and concerned the relations of the United States to its newly acquired territorial possessions.

The first case decided was that of *De Lima et al. vs. Bidwell*, collector, the case coming to the Supreme Court from the circuit court of the United States for the southern district of New York. The question at issue was the legality of customs duties upon goods imported from Porto Rico after the ratification of the treaty with Spain of April 11, 1899, ceding Porto Rico to the United States, and before the passage of the act of Congress to provide revenues and a civil government for Porto Rico, approved April 12, 1900, known as "the Foraker act." The constitutionality of the collection of the duties in this case had been affirmed by the United States circuit court, but the Supreme Court reversed the decision and held that, between the date of the ratification of a treaty ceding territory to the United States and the date upon which Congress legislated respecting the revenue and customs laws to be enforced over that territory, the territory was not foreign within the meaning of the tariff laws, and no duties on commerce between ports of the new territory and any port of the United States could legally be assessed and collected. Justice Brown delivered the opinion of the court. Justices Gray, Shiras, McKenna, and White dissented.

The case of *Goetze vs. United States* involved the validity of duties collected on tobacco imported from Porto Rico into the United States after the ratification of the treaty with Spain, but before the passage of the "Foraker act," and

the case of *Crossman vs. United States* involved the validity of duties collected on liquors imported from Hawaii in April, 1900, after the passage of the resolution for annexation, but before the taking effect of the act of April 30, 1900, providing a government for Hawaii. The only question in these cases was, whether Porto Rico and Hawaii, at the period mentioned, were domestic or foreign territory, and in accordance with the decision in the *De Lima* case the court held they were then a part of the United States and the importation not dutiable, reversing the action of the Board of General Appraisers and the judgment of the circuit court.

The *Dooley* case involved the validity of duties paid at the port of San Juan on goods imported into Porto Rico from New York between July 26, 1898, and May 1, 1900. The court held that the duties, which were levied under military orders and prescribed by the President as Commander-in-Chief and collected prior to the ratification of the treaty ceding Porto Rico to the United States, were legally collected, being justified by the laws of war. Those collected after the ratification of the treaty, however, were not legal, for the reason that on that date Porto Rico ceased to be a foreign country and the tariff ceased to apply. Justices Shiras, McKenna, Gray, and White dissented.

The *Armstrong* case was very much like the *Dooley* case, and the decision in that case applied.

The *Downes* case involved the question whether goods from Porto Rico which entered the port of New York after the passage of the "Foraker act" were exempt from duty or subject to duty under that act, which required the payment of "15 per cent. of the duties which are required to be levied, collected, and paid upon like articles of merchandise imported from foreign countries." The decision sustained the constitutionality of the Foraker act and the validity of the duties collected thereunder. Justice Brown delivered the opinion announcing the conclusion and judgment of the court. He said: "A false step at this time might be fatal to the development of what Chief-Justice Marshall called the American empire. Choice in some cases, the natural gravitation of small bodies toward large ones in others, the result of a successful war in still others, may bring about conditions which would render the annexation of distant possessions desirable. If those possessions are inhabited by alien races, differing from us in religion, customs, laws, methods of taxation, and modes of thought, the administration of government and justice according to Anglo-Saxon principles may for a time be impossible, and the question at once arises whether large concessions ought not to be made for a time, that ultimately our own theories may be carried out, and the blessings of a free government under the Constitution extended to them. We decline to hold that there is anything in the Constitution to forbid such action."

Justice White delivered a concurring opinion, which was also concurred in by Justice Shiras and Justice McKenna. Justice Gray also delivered a concurring opinion. The Chief Justice and Justices Harlan, Brewer, and Peckham dissented.

The Chief Justice, in his dissenting opinion, said: "The logical result is, that Congress may prohibit commerce altogether between the States and Territories, and may prescribe one rule of taxation in one Territory and a different rule in another. That theory assumes that the Constitution created a government empowered to acquire countries throughout the world, to be governed by different rules than those obtaining in the original States and Territories, and substitutes

for the present system of republican government a system of domination over distant provinces in the exercise of unrestricted power."

Mr. Justice Harlan, in his dissenting opinion, said: "It would seem, according to the theories of some, that even if Porto Rico is in and of the United States for many important purposes, it is yet not a part of this country with the privilege of protesting against a rule of taxation which Congress is expressly forbidden by the Constitution from adopting as to any part of the United States. In my opinion, Porto Rico became, at least after the ratification of the treaty with Spain, a part of and subject to the jurisdiction of the United States in respect of all its territory and people, and Congress could not thereafter impose any duty, impost, or excise with respect to that island and its inhabitants, which departed from the rule of uniformity established by the Constitution."

Dec. 2, 1901, the court handed down its decision in the case of 14 diamond rings, *Pepke, claimant, vs. United States*. This case involved the constitutionality of the imposition of customs duties upon merchandise brought into the United States from the Philippine Islands after the ratification of the treaty of peace with Spain. Emil J. Pepke was a soldier in a North Dakota regiment, serving in the Philippine Islands. He brought with him from Luzon 14 diamond rings, which he had purchased or acquired subsequent to the ratification of the treaty of peace. In May, 1900, in Chicago, these rings were seized by a customs officer as having been imported contrary to law and without payment of duties, and the same were declared forfeited. Chief-Justice Fuller delivered the opinion of the court, holding that the Philippines became domestic territory for tariff purposes by the ratification of the treaty, and therefore the collection of Dingley rates of duty on goods shipped from the island to the United States was unconstitutional. Justices White, Shiras, McKenna, and Gray dissented. The effect of this decision was to give the Philippines the same status that Porto Rico had before the Foraker act was passed.

On the same date the case of *Dooley et al. vs. United States*, known as the "second Dooley case," was decided. The court held that duties collected on goods imported into Porto Rico from the United States since the passage of the Foraker act were legal. Justice Brown delivered the opinion, and the court was divided on the same lines as in the first Dooley case.

The result of these decisions is, in effect, that Congress has the right to enact any tariff whatsoever between the United States and its Territories and possessions; and that, until Congress has acted, it must be assumed that no tariff barriers exist between regions that are under the jurisdiction of the United States.

Salaried Officers.—In *Glavey vs. United States*, decided May 27, 1901, it was held that when an office with a fixed salary has been created by statute, and a person duly appointed to it has qualified and entered upon the discharge of his duties, he is entitled, during his incumbency, to be paid the salary prescribed by statute. Such an appointment is complete when duly made by the President and confirmed by the Senate, and the giving of a bond required by law is a mere ministerial act for the security of the Government, and not a condition precedent to his authority to act in performance of the duties of the office.

Bankruptcy Law Construed.—Dec. 9, 1901, in the case of *Wilson Brothers et al. vs. Nelson*, the court construed the bankruptcy act with regard

to preferences. Cassius B. Nelson had permitted a creditor to obtain a judgment against him and the levy of an execution upon a note dated thirteen years before. This was held to be a preference, and Nelson's failure to vacate or discharge the preference was an act of bankruptcy, though the judgment was entered without the knowledge or consent of the debtor, and he was unable to prevent its enforcement in any other way than by filing his petition in bankruptcy.

Contracts.—The case of *Bedford vs. Eastern Building and Loan Association of Syracuse, N. Y.*, grew out of a sale of stock in the building association to Bedford, he being a resident of Tennessee. Bedford made default in the payment of his note and pleaded the violation of a law of Tennessee, passed after the contract, requiring the deposit of funds by building associations doing business in the State. The court held that the loan was a contract which the act of the State Legislature could not impair. The power of a State to impose conditions upon foreign corporations doing business within the State is recognized, but it can not be exercised to discharge a citizen of the State from his contract obligations.

ALABAMA, a Southern State, admitted to the Union Dec. 14, 1819; area, 52,250 square miles. The population, according to each decennial census since admission was 127,901 in 1820; 309,527 in 1830; 590,756 in 1840; 771,623 in 1850; 964,201 in 1860; 996,992 in 1870; 1,262,505 in 1880; 1,513,017 in 1890; and 1,828,697 in 1900. Capital, Montgomery.

Government.—The following were the State officers in 1901: Governor, William J. Samford, who died June 11, and was succeeded by the president of the Senate, William D. Jelks; Secretary of State, Robert P. McDavid; Auditor, G. L. Sowell; Treasurer, J. Craig Smith; Attorney-General, Charles G. Brown; Superintendent of Education, John W. Abercrombie; Commissioner of Agriculture, Robert R. Poole; Adjutant-General, W. W. Brandon; Railroad Commissioners, J. V. Smith, W. C. Tunstall, A. E. Caffee; President of the Convict Board, John J. Flowers; State Examiner of Public Accounts, John T. Gorman; Director of the State Department of Archives and History, Thomas M. Owen; Agent for the Sale of Swamp Lands, W. M. Byrd; Chief Mine Inspector, J. de B. Hooper; Chief Justice of the Supreme Court, Thomas N. McClellan; Associate Justices, Jonathan Haralson, John K. Tyson, Henry A. Sharpe, James R. Dowdell; Clerk, Robert F. Ligon, Jr. All are Democrats.

The term of the State officers is two years, but when the new Constitution goes into effect it will be four years; and the Legislature, which now meets biennially in November of the even-numbered years, will meet but once in four years. The session is limited to fifty days. The elections for State officers will take place at the time of the presidential elections.

Finances.—The condition of the State treasury was reported Sept. 30, as follows:

The receipts for the last year were something over \$128,000 less than the disbursements, but this was caused by extraordinary expense, that of the Legislature, the constitutional convention, and the university land settlement. The following statement comprises all receipts and disbursements during the fiscal year ending Sept. 30, 1901:

Cash on hand at close of Sept. 30, 1900.....	\$629,691 44
Receipts from Oct. 1, 1900, to Sept. 30, 1901.....	2,842,435 64
	<hr/> \$3,472,127 08
Disbursements from Oct. 1, 1900, to Sept. 1, 1901	2,970,767 78
Leaving balance on hand at close Sept. 30, 1901	\$501,359 30

The cost of the constitutional convention was \$90,469.03. The whole cost of the new Constitution would include the cost of the elections, in April for delegates, in November for ratification, probably about \$30,000 for each.

The convention was in session eighty-two working days.

In the apportionment of the special tax for disabled Confederate soldiers and the widows and children of deceased soldiers, although the fund was somewhat larger the amounts were smaller, the list having been increased by about 2,000 names.

In the militia appropriation at Washington, Alabama received \$23,360.

The total valuation of property in the State was raised this year by about \$10,000,000.

Education.—From a census office bulletin it appears that there are in the State 413,821 voters, of whom 232,476 are white and 181,345 are colored. Of the white voters, 200,795 can read and write and 31,681 are illiterate. Of the negroes, 73,399 are literate and 107,946 are illiterate.

The public-school fund for the present scholastic year amounts to about \$1,100,000, of which \$550,000 is the legislative appropriation from the general fund, \$245,245 the net special school tax, about \$152,000 poll-tax, and \$115,650 comes from interest on the sixteenth-section fund.

The university trustees instituted suit to recover lands belonging to the institution which had been sold to the Sloas-Sheffield Company at what was deemed much less than their value. The ground of the relief sought was that the sale was irregular, illegal, and void, and that the meeting of the Board of Trustees at which the sale was ordered was illegally called. The court refused the motion of the defendant to have the case dismissed for want of equity, and a compromise was then effected by which the lands sold, or lands equivalent, were deeded back to the university and the purchase money returned to the company.

The catalogue of the Alabama Polytechnic Institute showed 61 graduates this year and a total in former years of 640.

The average attendance at Booker T. Washington's institute at Tuskegee was given in March as 1,050. The pupils come from 23 States and Territories, Porto Rico, Cuba, Barbados, and Africa. One hundred and three persons comprise the faculty, and include officers, academic teachers, industrial instructors, and assistants.

The Southern University, at Greensboro, graduated a class of 16 in June.

The Conference College for Girls, at Tuskegee, which is forty-six years old, graduated 19 in the English and 9 in the classical course.

Charities.—In the insane asylum at Tuscaloosa there are about 1,500 patients who are crowded into a space that would be overfull with 1,000. During the year there have been 700 applications for admission, of which 137 had to be declined.

Six years ago Congress gave to the State Mount Vernon barracks and reservation, consisting of 1,600 acres of land, on which are very comfortable brick buildings. The property was deeded to the State for use for State purposes only, and is now lying practically abandoned, and Dr. Searey, superintendent of the hospital, suggests that the Legislature put the property at the disposal of the State Hospital Board, and they be allowed sufficient appropriation to make such improvements on the buildings and grounds as are necessary. This was done at the ensuing session of the Legislature.

The Girls' Industrial School, at Montevallo, had an attendance of 175 at the opening in September.

A reformatory for boys has been established at East Lake, through the efforts of many women of the State. In August it had 50 inmates. The Board of Control asked the Legislature for a grant of \$25,000, but only \$15,000 was given.

Convicts.—Damaging reports regarding the treatment of convicts at certain places in the State have been heard during the year. Dr. W. H. Blake, physician-inspector of convicts, made a report on the Dogwood mine, where county convicts were worked, showing lack of sufficient food, clothing, medical attendance, and proper attention to cleanliness. Eleven convicts were confined in one room badly deficient in light and ventilation.

A still more dreadful state of accommodations was shown by the report of another physician-inspector, Dr. Shirley Bragg, in May, as existing at the convict camp of Jennings Bros., near Manistee. These contractors work convicts from four counties who have been sentenced to hard labor. He found 19 men occupying a frame building about 40 by 35 feet in size, with two doors and no window, no ventilation, and no conveniences of any kind.

The Legislature appointed a committee to investigate the convict system of the State, and its report was made in February. It charged gross mismanagement, extravagance in use of the funds, the use of desperate criminals as "trusties," the employment of prisoners as house-servants for inspectors, abuse of perquisites by officials, violations of the law for hiring convicts, neglect of sanitation and needful repairs, and inadequate bookkeeping.

In September a report of convict inspectors made to the Governor indicates a great reform. The convicts were described as well-cared for in every respect, except at one place; and there the contract was canceled and the men removed. The whole number of State convicts was 1,694.

Official Irregularities.—In March was published the partial report of M. L. Woods, assistant inspector of public accounts, upon the result of his investigation of the method of convicting and sentencing prisoners in the county court of Butler County, on a charge of startling irregularities in the conduct of arrests and sentences of prisoners charged with riding unlawfully upon railroad-trains. In April the Governor pardoned 26 of these convicts who had been sent to the mines, making a total of over 50 Butler County convicts pardoned during the four or five months of his administration. A fuller investigation was afterward made by Hon. John T. Gorman, State Examiner of Public Accounts. His report showed that within the year there had been 356 prosecutions for this offense, the costs of which amounted to many thousands of dollars. The judge of the county court, Zell Gaston, received \$4 for the trial of each case; the sheriff's fees were larger; the clerk, the solicitor, and the witnesses also received fees; and the State paid the sheriff for boarding the prisoners. Many of the prisoners were charged with vagrancy as well as riding unlawfully, thus giving double fees to the officials, and some were charged with three offenses. Many were sentenced in the jail, instead of in the court-house.

Mr. Gorman also discovered the real cause for the arrest of so many persons in Butler County on this charge. Sheriff Hartley made oath to the statement that under an arrangement with R. S. Mitchell, a railroad detective, persons were invited by trainmen to ride free on freight-trains

and they were delivered up to J. W. Storey at Greenville, where they were taken to jail.

Railroads.—The report of the Railroad Commission for the year ending June 30 shows that the total gross earnings of all railroads in Alabama were \$21,773,220.26. The operating expenses were \$16,076,838.08, leaving the net earnings \$5,696,382.18.

Figured by the mileage, the average gross earnings per mile of Alabama railroads for the same period were \$4,353.74. The operating expenses per mile were \$3,198, leaving the net earnings per mile \$1,155.74. The total mileage of main-line tracks in Alabama is 4,145.44. In the year 151.77 miles of new track were built.

The assessment of railroad property was increased by the State board this year by \$2,399,574.40, the whole amount being \$50,577,913.23.

Insurance.—The annual report on insurance by the Secretary of State, *ex-officio* insurance commissioner, was published in May. It covers the year 1900, showing that the receipts were \$54,898.31 and the expenditures \$2,412.15.

In 1900 10 fire and marine insurance companies were admitted into the State, and 3 withdrew. Three life insurance companies were admitted to the State and 1 withdrew.

Banks.—The Eufaula National Bank closed its doors Oct. 21. The United States marshal arrested the president and the cashier on a charge of illegally using the bank's funds.

This failure followed not long after that of the Shelby County Bank, at Montevallo, for which the cashier was arrested charged with embezzling \$10,000.

Products and Resources.—The output of coal in 1900 is given as 8,500,000 tons; in 1890 it was 3,572,983 tons; in 1880 only 323,972 tons.

Official figures on the iron trade of Alabama and Tennessee for the calendar year 1900 show total shipments of pig iron amounting to 1,327,741 tons, of which the Birmingham district furnished 817,972 tons.

Figures of the production for the first eight months of 1901 are compiled from reports of the Southern Iron Committee. The shipments of pig iron from Alabama and Tennessee during the months named amounted to 985,404 tons, against 835,949 tons for the same period in 1900. The steel shipments amounted to 38,632 tons for the first eight months of the year.

In a report of the geologist I. W. Otley on the oil-fields in the Russellville and Riverton valley section of north Alabama, he says: "This field is an extension of the great Appalachian oil-belt from Canada to the Gulf of Mexico. The developments of this section of Alabama will undoubtedly prove a very rich field in both illuminating and lubricating oils. The essential geological features in much of this territory are so pointed that the question of securing oil in paying quantities is only secondary. The structural arrangement is such that the pools are necessarily broad, and when the catastrophes have been sufficient, but not too violent, deep pools may be anticipated."

The director of the United States Geological Survey submitted a sketch of the resources of the Coosa valley, which was to be used in support of an amendment to the river and harbor bill making appropriation for improvement of the Coosa river. He found that there were numerous gold-bearing veins, which, although the ore is generally low-grade, contain a very large amount of the metal and can be worked at a profit wherever transportation facilities are favorable; and that galena or lead ore occurs at numerous localities in the Coosa valley.

Other minerals occurring in the valley are marble, limestone, dolomite, clays, barite, yellow ochre, silica, graphite, mica, and feldspar.

A census bulletin gives the cotton-crop of the State as 1,103,690 bales; gross weight, 539,259,644 pounds. Mr. Hester's report in September gave the consumption in cotton-mills of the State as 164,357 bales. The estimated cotton acreage for 1901 was 3,449,751.

Labor.—From an abstract of a report on Child Labor in Alabama, by Irene M. Ashby, is taken the following: "She estimates that between 800 and 900 children under twelve are working for wages, with perhaps half as many helping their brothers and sisters without pay. She finds that these children are employed on an average sixty-six hours a week, and that there is no law against night work."

Lawlessness.—Lynchings of negroes have been reported as having taken place this year at or near Wilsonville, Georgiana, Athens, Tallassee, Leeds, Enterprise, and Chestnut Grove. The crimes charged were: 1, arson; 1, murder; 3, assaults upon white women; and 2, injuring white men. One was burned, 1 shot, and the others hanged. On Aug. 28 one of the men who confessed to having taken part in the lynching of Robert White, a negro who had wounded a white man with whom he had quarreled, was convicted of murder and sentenced to imprisonment for life.

At Ashville, Aug. 22, a negro named Brown was tried for assaulting a white woman, convicted, and sentenced to death. A mob collected and attempted to take the prisoner from the sheriff, after the trial, when a battle ensued between the mob and the officers, in which several were wounded, two, it was thought, fatally. These two were leaders of the mob. The Governor ordered troops to Ashville, but the order was countermanded when it was learned that the prisoner had been taken to Birmingham. The sheriff was afterward tried for firing into the mob. Gov. Jelks said in answer to criticism of his action in sending a company of militia to protect the sheriff during this trial: "It was represented to me by the best men in the county that North was in danger. I could not have forgiven myself had I left him to suffer for an official act which, so far as I know, has had the approval of the entire county. The sheriffs of the State may understand that in all lawful discharges of their duty I will protect them in so far as my office allows."

One of the first official utterances of the late Gov. Samford was a letter addressed to the presiding judge of the Fourth Circuit in regard to a lynching in Perry County, calling upon him to take steps to punish the lynchers. A similar letter was sent to the presiding judge of the Twelfth Circuit, in reference to a lynching in Henry County. Both occurred in December, 1900.

Movement for Annexation.—For some time the citizens of western Florida have been discussing the question of the annexation of that section to Alabama. At a meeting held at Pensacola in January resolutions were passed declaring such annexation to be for the interest of west Florida, and providing for a committee to present the subject to the legislatures of the two States. The counties involved are Escambia, Santa Rosa, Walton, Holmes, Washington, Jackson, and Calhoun, with a total population of 94,377.

The action of the Legislature on this question will be found below.

Legislative Session.—The Legislature convened Nov. 13, 1900, and was finally adjourned March 5, 1901, having been in session fifty days. After effecting permanent organization the

houses met in joint session to canvass the vote of the recent election. It is unusual to attend to this so early in the session; but the Governor-elect was so ill that it was feared he would not live to be inaugurated; and as there was some doubt about the succession in case of the death of a Governor-elect, the vote was canvassed immediately as a step toward providing for the succession of the president of the Senate.

William D. Jelks was elected President of the Senate, and Francis L. Pettus Speaker of the House. Mr. Pettus died March 6.

A bill was passed so amending the law that the Governor is not required to take the oath of office in presence of both houses of the General Assembly. Gov. Johnston signed the bill, though he said that he would not have voted for it had he been a member of the Assembly, as he thought a wiser measure would have been one applying only to the present special case. Another bill provided that the President of the Senate should become Governor in case of the death of the Governor-elect before he should have entered upon his term of office. This bill was vetoed by Gov. Johnston, but was passed over the veto.

Senator John T. Morgan was unanimously chosen Nov. 27 to serve the ensuing term in the United States Senate.

Daniel J. Meador was elected President of the Senate Dec. 3, to succeed W. D. Jelks, acting-Governor during the illness of Gov. Samford. The Governor recovered sufficiently to assume his duties and lived until June 11.

A new revenue bill was passed, requiring additional license tax on abstract companies, cigar-ettes, cane-rack, gipsy traders, all liquor-dealers and lager-beer dealers, pawnbrokers, and railroad-ticket brokers, and adding the following to the list of those to pay license taxes: Bill-posters, bicycles for rent or hire, book-agents, brokers and commission merchants, cider dealers, cigar and tobacco stands, clubs (social for men), cold storage, coal and coke agents, cotton buyers, dancing-halls, feather renovators, ferries and fall bridges, fruit-stands, horse-dealers, ice-factories, laundry, news companies, patent rights, photographers traveling, pistol or rifle cartridges, plumbers and gas-fitters, stocks and bonds, telephone companies, warehouse and elevator companies.

The license for retail liquor-dealers was raised \$25 to \$75, and that for wholesale dealers \$150.

An election was ordered to take place April 23, to decide the question of a constitutional convention, and for choosing 155 delegates, 100 to be nominated by the counties, 1 for each senatorial district, 2 for each congressional district, and 4 for the State at large; the convention to begin May 21, and the Constitution framed to be ratified or rejected by an election twenty to sixty days after the document should have been filed with the Secretary of State.

The jurisdiction of the State insurance department was extended over all fraternal, benefit, and aid associations, official and indemnity bond companies, and State organizations of every kind if operated for profit.

The general appropriation bill increased the annual common-school fund from \$450,000 to \$550,000. An appropriation of \$10,000 was made for the purpose of equipping a car to make an exhibit of the resources and products of the State.

The Mount Vernon military reservation, which has long been unused, was set apart as an insane hospital; provision was made for the incorporation and management of the hospital and for the admission and discharge of patients; and \$25,000 was appropriated for the Alabama Insane Hospital.

The gift of the former court-house of Calhoun County and its lot to the State Normal School, at Jacksonville, was confirmed, and \$10,000 was given for use on the buildings and grounds of Florence Normal College. The maintenance appropriation for each of the four white normal schools was increased to \$7,500.

For the Industrial School for White Boys at East Lake \$15,000 was appropriated for two years.

The appropriation for pensions to needy Confederate soldiers and sailors and their widows was raised \$100,000.

Among other general laws were the following: Providing for the segregation of consumptive convicts.

Setting aside June 3 of each year, Jefferson Davis's birthday, as a public holiday.

Requiring holders of diplomas or certificates from State normal schools and colleges or from other colleges to undergo examination for license to teach in the public schools.

To incorporate the Alabama City, Gadsden and Atalla Railway Company.

Establishing a State department of archives and history.

A resolution that was offered in the House to raise a joint committee to visit Florida and confer with the Governor and Legislature of that State relative to the annexation by Alabama of western Florida, was rejected in favor of a substitute providing that the Governor of Alabama be requested to take the matter up with the Governor of Florida and ascertain the sentiment of the Florida people.

The New Constitution.—An election to decide the question of holding a constitutional convention and to elect delegates to serve in case the vote should be in its favor was held April 23. The platform adopted by the Democratic State convention, March 19, explains the main purposes:

"After an experience of thirty years, affording every necessary facility to qualify the negro for the exercise of the franchise, it has been demonstrated that, as a race, he is incapable of self-government and the intelligent exercise of the power of voting. Therefore, in the interest of both races in Alabama we favor the holding of a constitutional convention for the purpose of regulating the right to vote so as to perpetuate the rule of the white race in Alabama.

"We pledge out faith to the people of Alabama not to deprive any white man of the right to vote except for conviction of infamous crime."

The Republican State Executive Committee held a meeting at Birmingham, Feb. 23, and adopted the following:

"Resolved, That we, the Republican State Executive Committee of Alabama, as the legal representatives of the Grand Old Party of the State, are unalterably opposed to a State constitutional convention."

At the same time the party organizations were urged to make nominations for delegates, that, in case the convention should be called, they might be as well represented as possible and use their influence against restriction of the suffrage.

The election resulted in a majority of 24,800 in favor of the convention, 70,305 for and 45,505 against, and it met at Montgomery, May 21. In the caucus of Democratic members the committee on credentials reported 141 delegates entitled to sit in that caucus, and 1 more was afterward admitted, leaving 13 not Democrats. Hon. John B. Knox was chosen president of the convention and Frank N. Julian secretary. Adjournment

was taken Sept. 3, after the Constitution as prepared had been adopted by a vote of 132 to 12, only 1 Democrat voting against adoption. The Governor appointed Nov. 11 as the date for the election to ratify or reject, and the majority was in favor of ratification. The official figures showed a majority of 26,879 in favor of ratification.

During the progress of the convention considerable opposition to the "grandfather clause" was developed. Four of the Committee on Suffrage and Elections presented a minority report opposing the clause, and Senator Morgan wrote a letter setting forth the reasons why it is opposed in his opinion to the spirit of the American Government.

The following "reasons for ratifying the new Constitution," published before the election, will give an idea of the changes it made:

"1. The limit of State taxation will be reduced from 75 cents to 65 cents on every \$100 worth of property, with perfect safety.

"2. The power of counties and towns to contract indebtedness will be restricted. The rate of taxation in counties will be reduced.

"3. No bonds, except those already authorized, can be issued except upon a vote of the people.

"4. Thirty cents of every 65 cents collected for State taxes will be devoted to the public schools, in addition to the poll-tax collected.

"5. Judges may discharge, under fixed rules, juries from the consideration of any case.

"6. Representation will always be according to population, and can not be changed except by a new convention, and not by amendment.

"7. Banks will be examined into by public accountants.

"8. The Legislature will meet every four years, saving \$50,000 every two years, and elections will be much less frequent.

"9. Local legislation will be next to impossible.

"10. Circuit solicitors will be elected by the people.

"11. Succession in the Governor's office is provided for in case of absence, inability, or death of the Governor.

"12. All State officers are elected for four years, and no one of said officers shall be eligible as his own successor, and the Governor shall not be eligible to election or appointment to any office under this State, or to the Senate of the United States during his term, and within one year after the expiration thereof.

"13. Inferior courts of law and equity, or either, can be established only in counties having 20,000 inhabitants and \$3,500,000 of taxable property.

"14. The Constitution of 1875 (Sec. 38, Art. I) recognizes the fifteenth amendment, which Alabama never adopted, and guarantees the negro all the rights of suffrage the white man enjoys. The new Constitution omits that section.

"15. Members of the Legislature and judicial officers are prohibited from using free passes, under heavy penalty.

"16. Assessments for street improvements will be limited to the benefit done abutting property.

"17. The new Constitution will be more easily amended than the present one.

"18. Under the suffrage provisions, the white man will rule for all time in Alabama.

"19. Prominent lawyers have expressed the opinion that under the present Constitution the State has no authority to fund its \$9,000,000 indebtedness. Under the new Constitution this can be done, and the debt refunded at from 1½ to 2 per cent. less interest than now paid. This will

save between \$100,000 and \$150,000 each year, a saving in one year of what the new Constitution will cost."

The suffrage article provides for the registration of all voters under the present law who have honorably served their country in war in the land or naval forces of the United States in the War of 1812, or in the war with Mexico, or in any war with the Indians, or in the civil war, or in the war with Spain, or who honorably served in the land or naval forces of the Confederate States, or of the State of Alabama in the civil war, the lawful descendants of such persons, and all who are of good character and who understand the duties and obligations of citizenship under a republican form of government.

The registration will be made in each county by a board of 3 persons, residents of the county, to be appointed by the Governor, Auditor, and Commissioner of Agriculture.

Heretofore the State has had no Lieutenant-Governor, the succession devolving upon the President of the Senate. The new Constitution provides for a Lieutenant-Governor, and the Attorney-General, State Auditor, Secretary of State, and State Treasurer have been added to the officers upon whom succession may devolve. If both the Governor and Lieutenant-Governor die, resign, or are removed, more than sixty days prior to a general election for any State officer, a Governor and Lieutenant-Governor must be elected at such election for the unexpired term. Provision has been made for ascertaining and declaring the disability of executive officers, when they appear to be of unsound mind.

It is provided that "whenever any prisoner is taken from jail or from the custody of the sheriff or his deputy, and put to death, or suffers grievous bodily harm, owing to the neglect, connivance, cowardice, or other grave fault of the sheriff, such sheriff may be impeached under section 174 of this Constitution. If the sheriff be impeached and thereupon convicted, he shall not be eligible to hold any office in this State during the time for which he has been elected to serve as sheriff."

Political.—The highest vote for presidential elector of each party in November, 1900, was: Democratic, 96,368; Republican, 53,669; Populist, 3,796; Prohibition, 1,407. For Governor the vote stood: Samford, 115,167; Steele, 28,291; Crowe, 17,543; Hargett, 1,301.

ARIZONA, a Territory of the United States, organized Feb. 14, 1863; area, 113,020 square miles. The population, according to each decennial census since the organization, was 9,658 in 1870; 40,440 in 1880; 59,620 in 1890; and 122,212 in 1900. Capital, Phoenix.

Government.—The following were the Territorial officers in 1901: Governor, N. O. Murphy—Alexander O. Brodie was appointed Governor in October; Secretary, Charles H. Akers, succeeded in July by Isaac T. Stoddard; Auditor, G. W. Vickers, who resigned Nov. 1; Treasurer, T. W. Pemberton; Attorney-General, C. A. Ainsworth; Adjutant-General, H. F. Robinson; Superintendent of Education, R. L. Long; Geologist, W. P. Blake; Surveyor-General, Hugh H. Price; Veterinarian, J. C. Norton; Chairman of Live-Stock Sanitary Board, A. C. McQueen; Surgeon-General, William Wylie, succeeded by M. M. Walker; Board of Equalization, R. N. Fredericks, M. P. Freeman, Michael Ohl; Game Commission, W. L. Pinney, T. S. Bunch, Eugene Allison; Chief Justice of the Supreme Court, Webster Street; Associate Justices, Richard E. Sloan, Fletcher M. Doan, George R. Davis; Clerk, Lloyd Johnston. All are Republicans.

Finances.—By the Treasurer's biennial report it was shown that the cash on hand June 30, 1900, was \$96,298.94; receipts from all sources for six months preceding June 30, \$271,925.42. This sum, with the exception of \$31,716.44, derived from the sale of bonds, was mainly received from the counties. To these receipts is added a balance on hand, January, 1899, of \$351,139.98. Expenditures in various directions amount to \$470,228.50, leaving a balance on June 30, 1899, of \$152,836.90. Receipts from all sources for the year ending June 30, 1900, were \$382,564.16; expenditures were \$439,102.11.

Since Jan. 1, 1899, the Treasurer has paid out for redemption of general fund warrants \$326,667.32; of this amount, \$50,905.97 was for interest.

Since Jan. 1, 1899, Territorial bonds have been redeemed amounting to \$74,000.

The general-fund warrants now outstanding amount to \$124,710.67, \$71,415.68 of which were issued on account of the Territorial prison and \$9,343.77 on account of a deficiency in the Insane Asylum fund.

Education.—Nearly 21,000 children were enrolled in the public schools at the latest report.

The normal school, at Tempe, graduated 18 students this year, of whom 4 were men.

The Territorial University, at Tucson, which in 1900-1901 had about 130 students and 3 graduates, showed an increase of about 20 at the September enrolment, with a senior class of 9.

The Navajo, Phoenix, and Pima Agency schools were represented in the collection of literary and industrial work of Indian schools exhibited at the meeting of the National Education Association at Detroit in July, which was highly praised and aroused much interest. Eleven girls were graduated in May in the domestic science department of the Indian school at Phoenix, the first class graduating in the Southwest in such a course. Four were graduated in the academic department.

The school at Sacaton agency, on the Pima reservation, has 260 pupils, who fill it to its utmost capacity. The school is in a desert surrounded by miles of sand and cacti.

A new school was opened at Rice Station in December, 1900, and has 208 Apache Indian pupils.

Railroads.—The valuations of railroads for taxation were considerably increased this year by the Board of Equalization in view of the greatly increased earnings. Two new roads were valued, the Morenci Southern at \$41,400 and the Southwestern at \$57,100. The increase on the older roads amounts to \$362,324, and the total valuation to \$4,822,859.

Contract was closed in August for the construction of the Bradshaw Mountain Railroad leading into the Lynx Creek country, which will give access to a valuable mining region. Though it is very short, only 8 miles, the work of grading and tunneling is very heavy.

Articles of incorporation have been filed for the El Paso, Phoenix and California Railway.

Insane Asylum.—The report on the insane asylum describes its condition at the beginning of the last biennial period, and the improvements that have been made with the \$12,000 appropriated by the last Legislature, which was \$6,000 below the estimate. It is shown that, in spite of the extreme drought of last year, the gross revenues of the asylum farm were \$8,366.64. The expense of the farm was \$3,301.29.

The Penitentiary.—In reporting on the condition of the Territorial prison, the Board of Control says it is to be regretted that no employment

has been found for the prisoners whereby the institution may be made self-sustaining. It is estimated that alterations and improvements needed will cost \$37,500. The expenses of the Territorial prison are now paid by warrants on the general fund drawing 7-per-cent. interest.

Reform School.—The contract for building the Reform School provided for by the Legislature of 1901 was let in September. The citizens of Benson gave a tract of 40 acres for the site. There is on the land an artesian well with a strong flow. The building, the contract price of which is \$25,000, will be 120×52 feet, two stories and basement. It will be constructed of stone, and is to be finished by Oct. 1, 1902.

Products.—The production of copper is steadily increasing in the Territory. In 1883 it was 23,274,965 pounds; in 1890, 34,906,680; in 1895, 48,329,403 pounds; in 1898 it was 110,823,364 pounds; in 1899, 152,267,403 pounds.

Among new discoveries recently reported are wolframite, in Mohave County, about 25 miles north of Signal; gold near Wickenburg, also at a place about 12 miles from Congress Junction, near Payson, and near Dos Cabezas, in the heart of the southern Arizona desert; and oil near Kingman.

According to a bulletin issued by the Census Bureau in August, "there are 5,809 farms in Arizona, with a total acreage of 1,935,327 acres, of which 254,521 are improved. Of these farms 1,769 are owned by Indians. There are 71 farms of more than 1,000 acres, and 814 of less than 3 acres. About half of the latter class belong to Indians. Of the total investment in farms over half, or \$15,458,717, was in live stock.

The raising of the California navel oranges is a growing industry, and experiments with the date-palm show that it can be successfully cultivated. The only home-grown dates shown at the Buffalo Exposition were from Arizona.

A report on the industries of Arizona by the Census Bureau shows that the Territory has 314 establishments with combined capital of \$10,157,408, an average of 3,268 wage-earners; total wages, \$2,369,065; miscellaneous expenses, \$433,272; cost of materials, \$8,464,410; value of products, including custom work and repairing, \$21,315,189.

The New Capitol.—This was dedicated Feb. 14, and at the same time the thirty-eighth anniversary of the organization of the Territory was celebrated. After a parade in the streets of Phoenix, the dedicatory exercises took place on a stand in front of the building. Addresses were made by the Governor, the President of the Council, the Speaker of the Assembly, the Chief Justice, and representatives of the counties.

The Territorial Government was first proclaimed at Navajo Springs, and the first legislative session was held at Prescott. The capital was afterward removed to Tucson, returned to Prescott in 1877, and in 1889 was changed to Phoenix.

Legislative Session.—The legislative session opened Jan. 21, and closed in March. P. P. Parker was chosen Speaker of the Assembly and Eugene S. Ives President of the Council. The Democrats were in a large majority, the parties standing: Council—Democrats 8, Republicans 4; House—Democrats 19, Republicans 5.

The poll-tax law was repealed, and code laws were passed upon and made effective.

A bill was passed providing for the improvement and enlargement of the Penitentiary at Yuma, and authorizing a tax levy of $3\frac{1}{2}$ cents on each \$100 of valuation. The Governor vetoed

the bill, but it was passed over the veto by a vote of 9 to 2 in the Council and 16 to 8 in the House.

Another bill passed over the Governor's veto was in reference to the Board of Equalization, the avowed object being to prevent interference by the Governor.

The Governor recommended that the Board of Equalization have the same authority over the mines as over railroads, as mines said to be worth \$100,000,000 were paying taxes on an assessment of \$2,000,000.

A new game-law was enacted, and the penalty for violation of its provisions was made not less than \$100 fine and costs, or imprisonment at the rate of \$1 a day until the fine is paid, one-half of the fines collected to go to the person or persons upon whose testimony the conviction is secured. The law prohibits the killing of camel, elk, mountain goat, female deer, mountain sheep, or spotted fawn altogether, and the killing of antelope for six years. No one person is allowed to kill more than one male deer in one day, or more than three in one open season, which is from Nov. 15 to Dec. 15. The season for doves is open all the year; the closed season for quail, bob-white, partridge, pheasant, wild turkey, wild duck, goose, brant, snipe, or rail is from March 1 to Oct. 15. No gun larger than 10-gage is allowed to be used on game-birds, and no one is allowed to net, snare, trap, or pound any game-birds. The open season for brook, mountain, or rainbow trout is from June 1 to Sept. 1, and for black bass, strawberry bass, or crappie, Sept. 1 to Dec. 1. Fish may be taken only with hook, line, or spear, and it is a misdemeanor to take one less than 7 inches long.

A new school law does away with county examining boards, and requires Territorial certificates for teachers, but county certificates now held are good for the term for which they were given.

Provision was made for the establishment of a reform school at Benson for youthful criminals, and appropriation was made for its construction, the bill imposing a tax of one-half a mill on the dollar for two years, estimated to yield about \$19,000 annually.

Other measures passed were:

Appropriating \$30,000 for water-storage.

For preservation of the public health.

For establishment of the National Guard.

Regulating the issuing of saloon licenses, providing that a county may not issue such a license unless the proposed licensee has obtained the consent of a majority of the property owners within 600 yards of the intended saloon or road-house.

Relating to games of chance, to exclude them from incorporated towns.

Authorizing a bond issue of \$25,000 for the building of a new structure at the university.

For taxing transient herds of sheep and goats.

Statehood.—An enthusiastic statehood convention was held at Phoenix, Oct. 26. Resolutions were adopted declaring that the Territory for the past ten years has had a larger population and greater wealth than the average of all the States of the Union at the time of their admission since the original 13 States established the Government; that no other equal area west of the Mississippi has more natural resources, her mines of copper alone producing bullion of the value of \$35,000,000 annually; and appealing to Congress to pass an enabling act. A commission of six was appointed to organize the movement.

The Governor's Report.—The report at the close of 1900 is summarized as follows: "The

taxable property of the Territory has increased more than \$1,250,000 during the year, notwithstanding the bad system of assessment. Railroad construction amounted to 74 miles. Throughout a greater portion of the year the Territory has suffered because of the drought, but the farmers have enjoyed prosperity and good crops. Last year, he says, was the most prosperous for miners in the history of the Territory. The public schools are in a flourishing condition, nearly 21,000 children being enrolled.

ARKANSAS, a Southern State, admitted to the Union June 15, 1836; area, 53,850 square miles. The population, according to each decennial census since admission, was 97,574 in 1840; 209,897 in 1850; 435,450 in 1860; 484,471 in 1870; 802,525 in 1880; 1,128,179 in 1890; and 1,311,564 in 1900. Capital, Little Rock.

Government.—The following were the State officers in 1901: Governor, Jefferson Davis; Secretary of State, John W. Crockett; Attorney-General, George W. Murphy; Auditor, T. C. Monroe; Treasurer, Thomas E. Little, who died April 10; Commissioner of Lands, J. W. Colquitt; Superintendent of Public Instruction, J. J. Doyne; Commissioner of Mines, Manufactures, and Agriculture, Frank Hill; Railroad Commissioners, F. M. Hanley, Abner Gaines, J. G. Wallace; Adjutant-General, Charles Jacobson; Geologist, John C. Branner; Chief Justice of the Supreme Court, Henry G. Bunn; Associate Justices, Simon P. Hughes, Burrill B. Battle, James E. Riddick, Carroll D. Wood; Clerk, P. D. English. All are Democrats.

State officers are elected on the first Monday in September in the even-numbered years, and serve two years. The Legislature meets biennially the second Monday in January in the odd-numbered years. The session is limited to sixty days.

Census Figures.—The increase in the negro population of the State from 1890 to 1900 was 57,739.

The number of deaths in the State in 1900 was 22,518. By the reapportionment in Congress the number of Congressmen for the State was increased from 6 to 7.

Finances.—The whole indebtedness of the State is \$1,271,000 of 3-per-cent. funded bonds, due in 1929, and \$58,000 principal and interest of 22 6-per-cent. bonds of 1869 and 1870, which appear from the records to exist and to be outstanding, but which were not presented and exchanged under the act of May, 1899. These \$58,000 were due Jan. 1, 1900, and may really not be in existence.

Of the bonded indebtedness of \$1,271,000 the sum of \$1,113,000 belongs to the permanent school fund, which can not be considered an indebtedness, because it can never be paid under the law creating it, only the interest thereof being paid from year to year, while the principal must remain invested as it now is. The annual interest on the whole bonded indebtedness is \$38,130.

The value of the work done on the new State Capitol is \$84,459.70, while the amount expended for all purposes is \$49,252.53, convict labor having been employed for part of the work.

Valuations.—The total valuation of real estate in 1900, upon which taxes were collected in 1901, was \$128,084,667; of personal, \$73,824,116; total, \$201,908,783. The total the preceding year was \$189,999,050.

Education.—The State has 8 universities and colleges with 108 professors and 1,636 students. There are 259 newspapers published within it.

The Insane.—The provision for the insane appears from the reports to be inadequate. There

are accommodations at the asylum for 600 patients, and appropriations for maintenance are made upon that basis—\$100 a year per capita. There were present in June 640 patients and about 100 employees. Further applications for admission were necessarily refused. From answers to inquiries sent to county judges it was learned that more than 300 insane were unprovided for, except as they were kept in ordinary jails. The Legislature made no provision for enlarging the accommodations.

Penitentiary.—There are nearly 1,000 convicts in charge of the State. A new prison has been built, the site of the old one having been taken for the new Capitol. The State penitentiary property was appraised by the board in November at \$249,008. The Penitentiary Board voted in August to annul on Oct. 15 the contract entered into during Gov. Jones's administration with the Arkansas Brick Manufacturing Company, whereby for a period of ten years the company was allowed to use the labor of as many as 300 convicts at 50 cents a day each, the State agreeing to guard, clothe, and feed the convicts, and furnish medical attendance for them. The State also furnished buildings, machinery, and force to operate the machinery. The boilers and engines were to be paid for in one, two, and three years at actual cost and 6 per cent. interest. The ground for annulment of the contract was given in the preamble:

"Believing that said contract is unjust to the State and made without legal authority, because the same was made for a term of years beyond the life of the board making it, and amounts to a lease of the State convicts, which is prohibited by law, and believing that it is to the best interest of the State and the management of the Penitentiary that the same be annulled and set aside."

The company resisted the action of the board and applied for an injunction to restrain it from carrying out the resolution, and in October Chancellor T. B. Martin, in Pulaski chancery court, granted a permanent injunction to restrain the board "from terminating the contract until its illegality or invalidity as a contract shall be adjudged and declared by some tribunal vested by law with jurisdiction and authority to be illegal or invalid."

Militia.—The reorganization of the militia was undertaken this year, with the intention that the organization, rules, and regulations should conform as nearly as possible to those of the United States army. The Legislature made no allowance, but \$16,993 was appropriated by the Government for the State Guard. All white citizens were urged to join the companies.

Confederate Soldiers.—The Soldiers' Home, 5 miles from Little Rock and half a mile from Sweet Home station on the Iron Mountain Railroad, has 75 inmates. About 60 acres of farm and garden land are cultivated by those able to work. In September the State Pension Board practically completed the work of passing upon the Confederate pension applications from the 75 counties in the State. About 4,500 claims were allowed, aggregating \$261,000. The amount available was between \$49,000 and \$50,000, so only about 19 per cent. could be paid to the pensioners. The money available represented the proceeds of the one-fourth of a mill levy. The last Legislature increased the levy to three-fourths of a mill, but no revenue can be derived therefrom until 1902. There was a great increase this year in the number of pension applications, as only about 3,000 were reported in 1900. The amounts, if

paid in full, would be from \$25 to \$100 a year for each pensioner.

Railroads.—The figures of the railway assessors, published in July, are summarized as follows: Number of miles of railroads in operation May 1, 1901, 3,105.88; increase in mileage since May 1, 1900, 53.73; valuation of railroads, express, etc., in 1901, \$28,298,031; increase in valuation over 1900, \$4,246,892.

Insurance.—It was reported in July that 5 insurance companies had withdrawn from the State within the two weeks previous to that date, and reinsured their risks in other companies, on account of legislation unfavorable to their interests, preventing the operation of rating bureaus and tariff associations.

Products.—A bulletin of the Census Bureau, issued in November, shows that the State has 4,794 manufacturing establishments, with a total capital of \$35,960,640 and a total of \$44,883,783 worth of products, including custom work and repairing. The number of establishments is 131 per cent. more than in 1890. The capital engaged in the industry shows an increase of more than 140 per cent., and the valuation of products 98 per cent. The average number of wage-earners is 26,501; total wages, \$8,686,291; and miscellaneous expenses, \$1,482,779.

The shipments of lumber in 1901 amounted to 241,587,705 feet, against 196,646,733 feet in 1900.

The coal product in 1900 amounted to 1,441,345 tons, and the value was \$1,653,818. Arkansas is one of the 4 States and Territories mentioned as having made the greatest comparative gains in coal production in the past decade.

Attention has been drawn of late to the great zinc deposits of the State, now being exploited, and promising immense returns when the railroads shall have opened up the country and furnished transportation for the product. The field is in the northwestern part of the State.

Borings for oil in the southwestern part of the State are proving successful.

Census bulletins show the nursery farms of the State in June, 1900, to have numbered 47, and the amount of sales of nursery stock was \$131,045.

The bulletin giving cotton statistics for 1900 shows the total gross weight in pounds for Arkansas to have been 406,491,933, and the number of bales 828,820. Hester's report gives the consumption in mills of the State as 1,729, a decrease of 651. The cotton acreage of 1901 showed an increase of 10 per cent. over that of 1900.

Lawlessness.—A race trouble arose in Ross-ton, Nevada County, in July, originating, it was said, with a negro preacher who went about organizing secret societies among the negroes. One of the many obligations taken was a pledge not to work for whites. Several negroes were whipped and the organizer was "run away abruptly." The rest of the story is told as follows: "A constable named Dalrymple went to arrest a negro by the name of Lizard Porter, and as he had no handcuffs he took a piece of rope to tie the negro. Either Lige Sigler or his boys knocked the rope from the constable's hand. A few nights after this Hop Haltom and Lewis Haynie went down to Lige Sigler's house to whip him, and the boys fired and killed both Haltom and Haynie. The boys were arrested. At night one of them was taken out or got away and in the morning was found down the road, shot full of holes."

A lynching was reported as having taken place at Mena, Feb. 20, the victim a negro in jail charged with assault on a girl of twelve.

The New Capitol.—Under the act of 1899 providing for beginning a new Capitol, and appro-

priating \$50,000, plans were obtained and the foundation laid on the site chosen—that where the old penitentiary stood—convict labor being employed for a large part of the work. The cornerstone was laid Nov. 27, 1900. An act was passed in 1901 providing for the completion of the building, limiting the cost to \$1,000,000, and levying a tax of one-half a mill for the purpose. It was provided that a new board should be appointed, and that the plans that had been adopted should be examined by an architect to be recommended by the supervising architect of the Treasury Department of the United States.

The commission, in November, decided that, as the building could not be completed as originally projected and upon the existing foundations for \$1,000,000, and as the commission was not warranted in erecting a smaller and different Capitol building upon another and different foundation, the board could proceed no further because of the prohibiting terms of the act of 1901.

Legislative Session.—The General Assembly met Jan. 14, and adjourned May 3, the session having been extended by joint resolution beyond the constitutional limit of sixty days.

Robert J. Wilson was chosen President of the Senate, and T. H. Humphreys Speaker of the House. In the House were 97 Democrats, 2 Republicans, and 1 Independent. The Senate was entirely Democratic.

United States Senator James H. Berry was re-elected by the unanimous vote of the Democratic members, the 2 Republicans voting for H. L. Remmel.

At the close of the session M. P. Huddleston was elected president *pro tem.* of the Senate.

An important measure was the act to punish and suppress gambling. A fine of \$500 to \$1,000 is to be imposed upon any person, firm, or corporation who shall set up, keep or exhibit, any gambling-table, or gambling device. The informant is to receive one-half the fine, and the other half goes to the common-school fund. The same fine is to be imposed upon the owner or controller of any building where such gambling devices are set up and operated; upon any official accepting a bribe to secure violators of the law from arrest and prosecution, one-half to go to the person or persons from whom the money was received, and the other half to the common-school fund.

The Governor, in August, remitted all but \$10 of fines of \$500 that had been imposed upon two negroes arrested for shooting craps. The Governor said he did not intend to see the new act "made odious and ridiculous by the officials of this county by having them permit the gambling-houses to run wide open in this city and a jury of their peers acquit them, and see the severe penalty of this law inflicted on the ignorant negroes for shooting craps."

The office of pomologist at the State University was abolished.

A collateral-inheritance law requires a tax of 5 per cent. on the property inherited, and calls for interest at 9 per cent. on such tax not collected by the end of one year from the death of the decedent.

An act was passed to prohibit the making of false statements of banks and the receiving of money and deposits when insolvent.

Under a former law when land that had been washed away along a navigable stream reformed as an island, it belonged to the State. This was changed so as to give title to the former owner, his heirs, or assigns.

The school laws were amended so as to require

full and elaborate reports concerning pupils and schools.

The organization of traction companies was provided for, and the maintaining and operating electric roads between cities and towns.

The game-law was amended so as to make section 343 read: "It shall be unlawful to catch, kill, or injure any wild buck, deer, doe, or fawn in this State between the 1st day of March and the 1st day of September in any year; provided, the citizens of this State shall have the right to kill any wild or undomesticated animal upon his premises destroying or in the act of destroying the crops of any such citizen at any season of the year, and it shall also be unlawful to catch, kill, or pursue with intent to catch, kill, or injure, any wild turkey between the 1st day of May and the 1st day of September in any year, and it shall also be unlawful to catch, kill, or injure, or pursue with intent to catch, kill, or injure, any pinnated grouse, commonly called prairie-chicken, between the first day of December and the last day of October of each year, or any quail, sometimes called Virginia partridge, between the 1st day of March and the 1st day of October in any year."

To prevent destruction of fish it was made unlawful to own, control, use, or construct, in any river or creeks of this State, any fish-trap for the purpose of catching fish. Some counties were excepted.

Other enactments were:

Defining kidnaping as taking into custody for the purpose of exacting a ransom or reward any man, woman, or child, and making the penalty imprisonment in the State Penitentiary for the term of not less than five nor more than twenty-one years.

Prohibiting the sale of adulterated candies.

Designating the first Monday in September as Labor Day.

Authorizing cities of the first class to establish and maintain training-schools for nurses and to issue diplomas to graduates.

Compelling corporations to redeem scrip in cash.

Exempting \$300 from attachment on behalf of widows and orphans.

Requiring licenses from non-resident peddlers of lightning-rods, steel stove-ranges, clocks, pumps, and vehicles.

Grading punishments for illegal sales of liquor.

Authorizing counties to buy bloodhounds for pursuing criminals.

Making the levy for Confederate pensions three-fourths of a mill.

The estimated amount of appropriations was \$1,100,000.

A resolution that was offered in the House, but failed to pass by a vote of 15 yeas to 68 nays, was for an amendment to the Constitution providing that school funds collected from whites and from corporations owned by whites should be kept separate from those collected from negroes, and that the funds from each race should be used only for the education of that race.

Constitutional Amendment.—An amendment was adopted by vote Sept. 3, 1900, permitting surety companies to sign bonds of State, county, and municipal officers.

Judicial Decisions.—In January the Supreme Court decided that the acceptance of payment of the poll-tax as a gift is contrary to the spirit of the requirement of the Constitution and does not entitle the person so accepting to vote.

The Attorney-General gave out an opinion in February that women are ineligible to appointment as notaries public. In June Chancellor Le-

land Leatherman, of Hot Springs, overruled a motion to suppress depositions taken before a woman as notary, holding that women are not ineligible, as the office of notary does not come under those in which the incumbent is required to have the qualifications of an elector.

The constitutionality of the coal-screen act, passed by the Legislature of 1899, having been called in question, the Supreme Court decided in favor of the act, the effect of which is to prevent coal companies from paying their miners upon a basis of screened coal instead of paying them for the coal before it is screened.

CALIFORNIA, a Pacific coast State, admitted to the Union Sept. 9, 1850; area, 158,360 square miles. The population, according to each decennial census since admission, was 92,597 in 1850; 379,994 in 1860; 560,247 in 1870; 864,694 in 1880; 1,208,130 in 1890; and 1,485,053 in 1900. Capital, Sacramento.

Government.—The following were the State officers during the year: Governor, Henry T. Gage; Lieutenant-Governor, Jacob H. Neff; Secretary of State, Charles F. Curry; Comptroller, Edward P. Colgan; Treasurer, Truman Reeves; Attorney-General, Tiley L. Ford; Surveyor-General, Martin J. Wright; Superintendent of Public Instruction, Thomas J. Kirk; Superintendent of Printing, Alfred J. Johnston; Adjutant-General, W. H. Seaman; Insurance Commissioner, Andrew J. Clunie; Commissioner of Labor, F. V. Meyers; Railroad Commissioners, E. B. Edson, C. S. Laumeister, N. Blackstock; Board of Equalization, Alexander Brown, R. H. Beamer, Thomas O. Toland, Lewis H. Brown; Commissioners of the Supreme Court, Wheaton A. Gray, James A. Cooper, N. P. Chipman, George H. Smith, and John Haynes; Building and Loan Commissioner, Frank H. Gould; Bank Commissioners, John Markley, A. W. Barrett, B. D. Murphy; Chief Justice of the Supreme Court, W. H. Beatty; Associate Justices, T. B. McFarland, C. H. Garoutte, R. C. Harrison, Walter Van Dyke, F. W. Henshaw, Jackson Temple; Clerk, George W. Root. The officers elected in 1898 were candidates on the Republican ticket except T. O. Toland and W. Van Dyke, who were candidates of the Fusionists. Justice Temple is a Democrat.

The State officers are elected in November of even-numbered years. The Legislature meets biennially in January of odd-numbered years, and the session is limited to sixty days.

Valuations.—The valuations of property in the State, as given in the Comptroller's official report for this year, amount to \$1,241,705,803, made up as follows: Value of real estate, \$680,270,651; improvements on real estate, \$276,849,326; personal property, \$189,506,344; money and solvent credits, \$45,957,997; railroads, \$49,121,485. The rate of State taxation is 48 cents.

The original assessed value of mortgages is \$149,341,064; the assessed value of university and other State mortgages, \$1,605,980. The total county indebtedness is \$3,333,233, of which \$3,224,400 is funded.

The aggregate valuation this year is \$23,413,346 greater than for 1900, and \$15,766,668 of this gain is represented in the enhanced value of real estate and new improvements. Mortgages have decreased by \$7,103,691, while money and solvent credits have increased by \$2,110,619. County indebtedness has been reduced \$296,146 during the year, while the total funded debts of the counties is \$278,300 less than for the preceding year. Notwithstanding these reductions in the financial obligations of counties, there has been no impairment of civic progress; in fact, many of the coun-

ties have added substantial improvements without incurring any additional indebtedness.

Education.—The State is particularly favored with educational institutions. There are only two States in the Union that have more than one university. The one is New York with Columbia and Cornell, the other is California with the University of California, at Berkeley, and Leland Stanford Junior University, at Palo Alto, Santa Clara County. The attendance at both universities was larger this year than ever. At the State University the total was in excess of 3,000, while Stanford has over 1,400. In October Stanford celebrated its tenth anniversary, and the State University was twenty-eight years old in July. The buildings at Palo Alto are gradually nearing completion, and it is expected that within two years the great quadrangle of stone structures, including the magnificent memorial chapel, will be completed as originally planned.

Probably the greatest event in educational life in California this year was the gift by Mrs. Jane L. Stanford to the Stanford University of more than \$30,000,000. This munificent gift, which was made on Dec. 9, makes that university the wealthiest institution of learning on the American continent, and one of the wealthiest in the world. The gift embraced money and interest-bearing bonds to the value of \$18,000,000, and the remaining \$12,000,000 was in productive property in 26 counties of the State. The University of the Pacific (Methodist), at San José; the California College (Baptist), at Highland Park, Oakland; the Wilmerding School, at San Francisco; Mills Seminary, at Seminary Park, Alameda County; Santa Clara College, at Santa Clara; and other educational institutions in various parts of the State, are all largely attended.

Mining.—The output of the precious metals was greater this year than in either of the two preceding years. The total gold yield was \$15,730,700, and the silver production aggregated \$1,118,335 in value. The State ranks second as a gold-producer and seventh among the silver-producing States. In the past few years mining in California has broadened out, and it is no longer confined to the precious metals. This development received a wonderful impetus last year. Copper is now produced in large quantities, and Shasta County has advanced from insignificance to first place among the counties for mineral wealth. The output of copper in Shasta County in 1901 was more than 32,000,000 pounds. Smelters were erected on copper properties in Lake, Siskiyou, and other counties. Late in the summer an extensive copper deposit was discovered on the western side of the Siskiyou mountains, about 5 miles south of the Oregon line. The ledge varies from 300 to 350 feet in width, and can be traced on the surface nearly 4 miles. It is said to be one of the greatest deposits ever found on the continent. Some attention is also being given to extensive iron-ore deposits in Trinity, Shasta, Mendocino, Kern, Mariposa, San Luis Obispo, Fresno, and Madera Counties. In the latter two counties large smelters are approaching completion. The copper production for 1901 is estimated at about \$7,500,000, and the value of all the base metals and inferior minerals is in excess of \$15,000,000.

Fuel Oil.—The extensive petroleum deposits of the State have assumed such large proportions as to change completely the outlook for industrial and manufacturing development. Petroleum was discovered in California more than thirty years ago, but so long as the production was confined to the narrow belt traversing Los Angeles Coun-

ty, and to a few other isolated spots, it attracted little attention and made but a small figure in the industrial possibilities of the State. In the past two years, however, when the oil prospectors have proved, through discoveries made in Kern County, that a large section of the State was underlaid with oil-bearing strata, the status of petroleum in its relation to the industries was completely altered. The rapidity with which wells have been sunk in the Coalinga and Kern river districts has been marvelous. Within two years the output has increased from hundreds of barrels to millions. Perhaps the most expressive evidence of the growth of oil-production is in the enormous advance in land values and other property in that section of the State. The assessed valuation of property in Kern County rose under the inspiration of oil-developments from \$13,293,000 in 1900 to \$19,165,000 in 1901. The Standard Oil Company has taken the initiative toward the investment of at least \$10,000,000 in the State for the construction of plants for transporting the crude petroleum to tide-water at San Francisco Bay and for the refining of it afterward. Contracts for the pipe-line have been let, and some of the material has been delivered on the ground. This pipe-line will be 270 miles long, extending from Bakersfield to Point Richmond. The main line, with its branches, will be about 400 miles long. As the total grade is only 415 feet, pumping-stations will be erected about 8 miles apart. Contemporaneous with the construction of this pipe-line, a large refinery, costing more than \$3,000,000, will be erected at Point Richmond. California has always been handicapped in manufacturing by the high cost of fuel, but crude petroleum has solved that problem. Many of the largest manufacturing plants in the State are using fuel oil, and many new industries are starting.

Recently the ferry-boats of the railroad companies plying on San Francisco Bay have been converted from coal-burners to oil-burners, and the locomotives are being similarly treated. The railroad companies thus use 4,000,000 barrels of crude oil a year. The total consumption of crude oil in the State at present is more than 7,000,000 barrels per annum. At the close of the year the Kern river field had 447 producing wells, with an annual capacity of 9,655,000 barrels. The neighboring Sunset and Coalinga fields have a capacity of 4,440,000 barrels a year, and the Los Angeles, Ventura, and Santa Barbara fields 1,900,000 barrels a year. The oil-producing capacity of the State, therefore, at the close of 1901 was about 16,000,000 barrels. The search for petroleum oil is being prosecuted in 29 counties. Petroleum now stands third in value among the State's productions, wheat being first and gold second.

Banking.—Reports from the 257 State banks show the financial condition of these institutions at the close of business on Dec. 31, 1901, with resources aggregating \$371,547,972.07. This is a gain of \$36,702,700.67, compared with the total for the same date of the previous year. Such an increase is without precedent in the history of banking in California. The item showing the largest gain is the amount due depositors. On Dec. 31, 1900, this total was \$258,928,138.28, and on Dec. 31, 1901, it had grown to \$290,076,038.79, thus showing an increase in deposits for the year of \$31,147,900.51. Nearly all that large increase evidently found profitable investment, for the increase in cash on hand was only \$554,318.82, compared with the previous year. During the preceding years, which were considered years of exceptional prosperity, the gain in banking resources

for the State was as follows: From August, 1898, to July, 1899, \$19,701,246; from July, 1899, to August, 1900, \$23,235,547. These reports include 178 commercial banks, of which 17 are in San Francisco; 59 savings-banks, of which 9 are in San Francisco; and 20 private banks. In addition to these, which are under the jurisdiction of the bank commissioners, there are 43 national banks in California, 5 of them being in San Francisco. The resources of national banks amount to \$74,752,680.66, and they hold deposits aggregating \$42,019,351.32. At the close of 1901 there were 400 banks in the State, with total resources of \$446,300,652.73. The deposits in all banks amounted to \$300,947,490, or more than \$200 per capita of the State's population.

Agriculture.—The year was one of prosperity for the farming interests, although prices for cereals ruled low for several months. The wheat-crop was a fair average for the central portion of the State, excellent for the northern counties, and poor for the southern section. The yield was 30,633,000 bushels, and the value about \$18,350,000. The crop of barley was a trifle in excess of 20,000,000 bushels, worth about \$7,500,000. Corn and oats are not grown extensively, and the yield of the former is estimated at 1,500,000 bushels, while the latter does not exceed 2,000,000 bushels. The bean-crop was liberal, and prices were remunerative. The yield is estimated at 54,000,000 pounds, or about 6,000,000 pounds more than in the previous year.

Contrary to expectations, the honey-crop was below the average. Before the close of autumn it was evident that the total would not exceed 220 car-loads.

The hop-crop was a good average yield, and considerably better than in the previous year. The total was about 45,000 bales, or 8,820,000 pounds.

The growth of sugar-beets has made steady progress for some years, and the sugar output for 1901 is the greatest in the history of the State. The total sugar production of the 8 refineries was 80,000 short tons, or more than double the output of the preceding year.

The dairy interests made substantial progress, and some of the large grain areas of the San Joaquin valley are now being devoted to dairy uses. Some of the large dairies imported more than 1,000 head of fine stock from the Eastern States for the improvement of California herds. The value of dairy-products for 1901 was a little more than \$16,000,000.

The wool industry is still quite important, but not so much so as in former years. The clip of 1901 is estimated at 15,000,000 pounds.

Horticulture.—The fruit-crop was scarcely up to the average in quantity, but the quality was excellent and good prices were obtained. The shipments of deciduous fruits to the Eastern States amounted to 6,459 car-loads, while 24,000 car-loads of oranges and lemons constituted the shipments of citrus fruits. The prune-crop was short, the total cured product aggregating about 72,000,000 pounds, the bulk of this being grown in Santa Clara County. The yield of raisins was about 70,000,000 pounds, a larger percentage than usual being of the seedless variety. Other dried fruits, with the exception of peaches, apricots, and pears, were about the same in quantity as in the previous year. The estimates of dried-fruit production for 1901 are as follow: Peaches, 28,500,000 pounds; apricots, 11,650,000 pounds; apples, 6,000,000 pounds; pears, 7,500,000 pounds; plums, 4,400,000 pounds; nectarines, 600,000 pounds; dried grapes, 440,000 pounds; and figs, 4,000,000

pounds. The yield of walnuts was liberal, the total being 14,400,000 pounds. Almonds were scarce, the estimated yield being 5,400,000 pounds. Late statistics show that the State has about 30,000,000 fruit-trees of all kinds, more than two-thirds being in full bearing. Santa Clara County has more than 4,000,000 trees, and Los Angeles County nearly 3,000,000. The northern part of the State has about 69 per cent. of the trees, and 31 per cent., mostly citrus trees, are in the southern counties. The wine production of the year was smaller than for the two previous years, the total being 17,500,000 gallons, of which 12,000,000 gallons is estimated to be dry wine and 5,500,000 sweet wine. The yield of brandy was 810,000 gallons. The estimated pack of canned fruits is 2,275,000 cases, each case containing 2 dozen 2½-pound cans. In addition, 1,150,000 cases of canned vegetables were put up. Increased attention is being given to candied fruits.

Railroads.—The principal event of the year was the opening of a new through coast line from San Francisco to Los Angeles, thus making a continuous rail line from San Francisco to New Orleans. This shortens the overland trip by the southern route nearly half a day, besides being much pleasanter for travel. Instead of bringing passenger-trains up through the vast grain-fields and cattle-ranges of the San Joaquin valley, the trains now follow the coast-line with the Pacific ocean in view for nearly 100 miles, thence through big-tree groves and the orchards and vineyards of the beautiful Santa Cruz mountains and the Santa Clara valley to San Francisco. In the northern part of the State the railroad has extended its northern terminal 25 miles beyond Ukiah, and the work is still going on toward Eureka, in Humboldt County. The line between San Francisco and San José is being improved, and will be double-tracked the entire distance.

Manufactures.—The State has always been at a great disadvantage in the utilization of its resources because of the high cost of fuel. The last year, however, has witnessed a marked advance owing to the abundance of petroleum oil and the transmission of electric power developed by water-pressure in the mountains. With these two sources of power manufacturing has largely increased, and the output of 1901 is nearly 50 per cent. greater than in any previous year.

COLORADO, a Western State, admitted to the Union Aug. 1, 1876; area, 103,969 square miles. The population was 194,327 in 1880; 412,198 in 1890; and 539,700 in 1900. Capital, Denver.

Government.—The following were the State officers in 1901: Governor, James B. Orman, Democrat; Lieutenant-Governor, David C. Coates, Populist; Secretary of State, David A. Mills, Populist; Treasurer, J. N. Chipley, Silver Republican; Auditor, Charles W. Crouter, Democrat; Adjutant-General, G. F. Gardner, Populist; Attorney-General, Charles C. Post, Democrat; Superintendent of Public Instruction, Helen L. Grenfell, Democrat; Chief Justice of the Supreme Court, John Campbell, Republican; Associate Justices, Robert W. Steele and William H. Gabbert; Clerk, H. G. Clark.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years, limited to ninety days.

Valuation.—In 1898 the assessed valuation was \$192,243,080; in 1899 it was \$203,486,692; in 1900 it was \$216,776,356.

Education.—In 1900 the State paid for the support of schools \$2,894,331, an increase of near-

ly \$400,000 over 1899. The census of children of school age for 1900 was 158,112. The actual school enrolment for that year was 129,846, an increase of about 10,000 over 1899. The number of school-buildings erected in 1899 and 1900 was 126. The attendance at the State Normal School in 1900 rose to 575, an increase of 7 over 1899.

The State School of Mines had 235 students, an increase of about one-third over 1899, filling the school to its utmost capacity. The State University, at Boulder, had in 1901 900 students in all departments, and 92 instructors. The enrolment of the Agricultural College, the University of Denver, and the Colorado College also showed a large increase for 1900–1901. The other higher schools of the State show a gratifying condition of growth and prosperity. The attendance and the enlargement of facilities at the State University in 1901 surpassed the records of all previous years. A new library building is one of the latest additions.

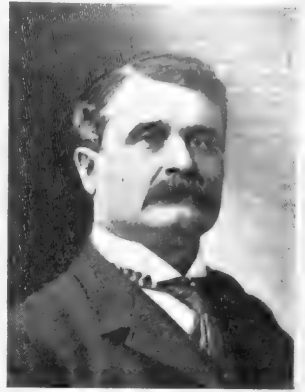
Last year Colorado College received a donation of \$100,000 for a new science building.

The University of Denver in 1901 erected new houses for the accommodation of students.

Productions.—The report of the Director of the United States Mint, issued early in 1901, showed that while the total production of gold in the country during the calendar year 1900 was valued at over \$79,000,000, the product of Colorado, by far larger than that of any other State, amounted to \$29,500,000. In the output of silver this was also the leading State, being credited with more than 20,000,000 fine ounces. Of lead, Colorado in 1900 produced 82,137 short tons, against 70,308 in 1899, and her copper production was about 8,000,000 pounds. About 5,300,000 tons of coal were produced in 1900, being an increase of nearly 500,000 tons over 1899, and making Colorado seventh among the coal-producing States. The iron and steel production of 1900 was worth about \$6,000,000, the increase in iron ore being nearly 45,000,000 pounds, that in pig iron almost 50,000,000 pounds, and that in steel rails close upon 80,000,000. More than 500,000 tons of coke were produced—a substantial increase over 1899, showing a corresponding growth in various industries.

The biennial report of the Commissioner of Mines, filed at the close of 1900, presents many interesting facts, covering the entire mining history of the State.

There were 40,111 men employed in mining during 1900—16,040 above ground and 24,071 below ground. For the first time definite figures are given for the 1899 production of minerals in the State, namely, \$48,320,341.98, divided as follows: Gold, \$26,508,675.57; silver, \$13,771,731.10; copper, \$1,869,166.78; lead, \$6,170,765.63. There were 210 fatal and 1,001 non-fatal accidents in the mines under the commissioner's jurisdiction during the biennial period.



JAMES B. ORMAN,
GOVERNOR OF COLORADO.

The twelfth federal census gives the total value of Colorado live stock as \$49,359,781, while the number of farms is 24,703. The figures are distributed as follow: In October, 1900, there were of range and farm cattle, 1,333,202; dairy cows, 100,166; horses, 236,546; mules, 6,784; sheep, 2,044,814; swine, 101,198. The increase of horses over 1899 was 87,859; of swine, 80,485; of sheep, 389,263.

With an irrigable area of some 20,000,000 acres, the State has only about 10,000 miles of irrigating canals and ditches, or one-tenth of the requisite supply. The amount of improved and cultivated land is about 2,000,000 acres. The farm and garden products for 1900 were estimated to be nearly \$90,000,000 in value. The shortness of the 1901 potato-crop in other parts of the country was in contrast to the large yield in Colorado, which was a source of great profit to her farmers. In this, as also in other respects, 1901 was the best year they have ever known. The acreage of potatoes planted was estimated at 35,000, and the number of bushels marketed at 4,000,000. With the progress of irrigation, fruit-raising is rapidly developing. Peaches and many kinds of small fruits are grown as successfully as anywhere in the Union. In 1900 the number of acres planted with fruits was 140,000, and the value of the fruit product was \$6,300,000. The increase in acreage over 1899 was 10 per cent., and in yield about 30 per cent. At the beginning of 1901 there were 5 large beet-sugar factories in the State. In 1900, 75,000 tons of beets were used, producing about 15,000,000 pounds of sugar, valued at \$750,000. The capital employed in the industry was \$2,000,000, and the number of persons about 2,000.

In 1900 the capital invested in Colorado in manufactures and mechanical industries aggregated \$62,825,472; establishments, 3,570; wage-earners, 24,725; value of products, \$102,830,137; an increase of over 135 per cent. in capital and 142 per cent. in value of products since 1890.

Legislation.—The thirteenth biennial session of the Legislature began Jan. 2, 1901. Its membership (in both houses) consisted of 52 Democrats, 21 Silver Republicans, 15 Populists, and 12 Republicans. The number of bills introduced was 774, of which 116 were passed. T. M. Patterson was elected to succeed E. O. Wolcott as United States Senator. The appropriation bills passed by both houses aggregated \$1,771,621. The general appropriation amounted to \$550,000. Among special appropriations were: State Reformatory, \$85,000; Penitentiary, \$172; Insane Asylum, \$141; State University, \$120,000; St. Louis exposition, \$20,000; Soldiers' and Sailors' Home, \$40,000; State Normal School, at Greeley, \$25,000; State School of Mines, \$25,000; completion of the State Capitol, \$64,000. Acts were passed for the following purposes:

- To improve the normal institutes.
- To prevent the desecration of the American flag.
- To require instruction in the public schools on the humane treatment of animals.
- To preserve the forests on State lands.
- To build a hall of metallurgy at the State School of Mines.
- To create a food and dairy commissioner.
- To compel fire insurance companies to pay the face of the policy in case of total loss.
- To prevent farm-products from other States being shipped from this State as Colorado products.
- To establish a State normal school at Gunnison.
- To build a State tunnel and reservoir to irrigate Delta and Montrose Counties.

To establish the counties of Adams and South Arapahoe.

To provide that railway-train employees shall not be required to go on duty for ten hours after working sixteen consecutive hours.

To submit constitutional amendments for an eight-hour law, the eight-hour act of 1899 having been declared invalid by the Supreme Court.

For adoption of the Australasian land-tax system.

To repeal the law against blacklisting and boycotting.

To request a convention for proposing amendments to the Federal Constitution.

That mortgaged property shall be assessed as a unit at full value, disregarding the mortgage, which shall not be otherwise returned or assessed.

That all private corporations doing business in Colorado, except railroads, shall pay their employees in cash, or in checks convertible into cash on demand, on the 5th and 20th days of each month; and that railroads shall be required to pay once a month.

The last act to be passed was the revenue bill, prescribing many additional taxes.

Railroads.—About 200 miles of new railroad was built in 1900. A link was made giving Denver direct connection with the Burlington system and opening to the city the trade of a large section. The like connection of Denver with the Northwestern system, in progress during 1901, will also greatly strengthen the position of the Colorado capital as a railroad and trade center.

Interesting and successful tests were made in July on the Pike's Peak cog-road with a new locomotive weighing 14 tons. It was considered that the tests demonstrated the practical impossibility with this locomotive, which is stopped automatically, of accidents on account of the heavy grade.

Banks.—Reports from the 37 national banks of Colorado outside of Denver show that in the three months ended July 15 the individual deposits increased over \$200,000, to \$24,817,762, while the total loans and discounts increased nearly \$700,000, to \$13,939,591. These banks held \$1,626,038 in gold coin, compared with \$1,411,891 in April. The total amount of outstanding national bank-notes issued by them was \$1,831,600, an increase of \$6,000. These banks had bonds to secure deposits amounting to \$350,000, while in April they aggregated \$100,000 less.

Quartocentennial.—The celebration at Colorado Springs of the twenty-fifth anniversary of the admission of Colorado to the Union as a State was a noteworthy event. On Aug. 2 an address was delivered in presence of a great multitude by Vice-President Roosevelt.

Lawlessness.—In February one member of a posse, said to be acting without legal right, in an attempt to oust a Denver gambler from his premises was shot and fatally wounded by the man against whom the ejectment was designed.

During the summer, trouble with miners at Telluride led to much riotous violence against private individuals and peace officers, necessitating appeal to the highest authorities. Large rewards were offered by mine owners and county commissioners for the conviction of specified offenders.

A large mob of men, residents of Delta County, July 17, burned a hotel and other buildings belonging to the proprietor of the Grand Mesa lakes in revenge for the killing by a game-warden of a citizen who was fishing in the lakes without the proprietor's permission. In September the game-warden was convicted of manslaughter.

Political.—More than a score of women were elected as county superintendents of public instruction in November, and in several instances women were elected to other offices.

The congressional reapportionment under the census of 1900 gives Colorado a gain of 1 representative.

CONNECTICUT, a New England State, one of the original thirteen, ratified the Constitution Jan. 9, 1788; area, 4,900 square miles. The population, according to each decennial census, was 237,946 in 1790; 251,002 in 1800; 261,942 in 1810; 275,148 in 1820; 297,675 in 1830; 309,978 in 1840; 370,792 in 1850; 460,147 in 1860; 537,454 in 1870; 622,700 in 1880; 746,258 in 1890; and 908,355 in 1900. Capital, Hartford.

Government.—The following were the State officers in 1901: Governor, George P. McLean; Lieutenant-Governor, Edwin O. Keeler; Secretary of State, Charles G. R. Vinal; Treasurer, Henry H. Gallup; Comptroller, Abiram Chamberlin; Attorney-General, Charles Phelps; Adjutant-General, George M. Cole; Insurance Commissioner, Edwin L. Scofield; Railroad Commissioners, W. E. Wilcox, W. O. Seymour, O. R. Fyler; Auditors, W. A. Riley, J. P. Bree; Highway Commissioner, James H. MacDonald; Labor Commissioner, Harry E. Back; Fish and Game Commissioners, G. T. Matthewson, E. H. Geer, R. G. Pike; Shell-Fish Commissioners, G. C. Waldo, Christian Schwarz, Seth Sanford; Tax Commissioner, Andrew F. Gates; Forester, Walter Mulford; Fire Marshal, John A. Rusling; Commissioner of the School Fund, Carnot O. Spencer; President State Board of Charities, E. A. Doun, succeeded in September by Henry H. Bridgman; Bank Commissioners, C. H. Noble, G. F. Kendall; Dairy Commissioner, John B. Noble; Cattle Commissioner, Heman O. Averill; Factory Inspector, G. L. McLean; Chief Justice of the Supreme Court of Errors, Charles B. Andrews, who resigned and was succeeded in October by David Torrance, Associate Justice, whose place was filled by the appointment of Samuel O. Prentice, of the Superior Court; the other Associate Justices are Frederic B. Hall, Simeon E. Baldwin, and William Hamersley; Judges Baldwin and Hamersley are Democrats, the other justices and the elected State officers are Republicans; Clerk of the Court, George A. Conant.

The term of the State officers is two years, except that of the Attorney-General, which is four years. Elections are in the even-numbered years. The Legislature meets biennially in the following January; the session is not limited as to length.

Census Figures.—The final census report on population shows the number of persons of school age, five to twenty years inclusive, and the males of school age in Connecticut, respectively, 257,101 and 127,962. The males of militia age are 207,696. The males of voting age are 280,340; native born, 173,248.

Last year, it appears, there were 168 more men than women in Connecticut, whereas ten years before the excess of women was over 7,000. In 1890 there were 12,820 colored persons in Connecticut, and the return for 1900 was 15,996, of whom 15,220 were negroes, 599 Chinamen, and 153 Indians taxed. There were also 18 Japanese last year.

Almost three-fifths of the persons in Connecticut are now either foreign born or the children of foreign-born parents.

The death-rate decreased from 18.6 in 1890 to 17.0 in 1900, to the 1,000.

Finances.—The receipts for the year ending Sept. 30 were \$3,156,156.34, and the expenditures

were \$3,777,109.81. The bonded debt was \$1,720,876.76.

During the last five years there has been a decided decrease in the indebtedness of the State.

The receipts for the year proper were \$2,876,856.83 and the expenditures \$2,622,000.14.

The grand list, giving the returns of taxable property in the State, shows that the assessors' lists amounted to \$562,690,162, and the Board of Equalization added \$131,510,000, making a total valuation of \$694,200,162. The total in 1900 was \$570,163,749.

The Comptroller is required by statute to publish once in four years the returns made to his office of the indebtedness, amount received from taxation during the past year, and other information pertaining to the towns and other local governments. The total indebtedness of all the towns, cities, boroughs, and counties is \$27,624,827.42. This is an increase of \$3,043,760.87 over the amount reported in 1896.

The amount raised by taxation during the year was \$8,106,904.29.

The State Prison.—There were 504 convicts at the prison in June, the largest number since December, 1899. Additions and repairs were in progress. The new law provides that when a person is sentenced to State prison, except for life or in connection with a sentence of execution, the court shall not fix a definite term, but shall establish a maximum and a minimum term. The maximum shall not exceed the maximum sentence prescribed by the law, nor the minimum be less than one year. When the person shall have been twice before convicted, sentenced, and imprisoned in a State prison or penitentiary, the court shall sentence said person to a maximum of thirty years. Any person, after the expiration of the minimum term, may be released on parole by the warden and a majority of the directors, if the prisoner, in their judgment, will lead an orderly life.

School for Boys.—The report of the State School for Boys, at Meriden, shows that improvements have been made at a cost of nearly \$6,000, paid from the ordinary income of the school, as all improvements during the past few years have been. The introduction of a manual-training department, where 60 boys are instructed, and the lengthening of the school hours for the boys in cottages, have reduced the income from the chair shops a little over \$1,200; but the whole amount of receipts exceeds that of the preceding year by \$936. The State agent has made over 600 visits to paroled boys, and investigated before parole nearly 250 homes. Seventy per cent. of the entire number of boys remaining on the visiting-list are reported without any qualification as doing well.

Militia.—The membership of the National Guard, Sept. 30, 1900, was: Brigadier-General and staff, 16; Battery A, 82; First Regiment, 684; Second Regiment, 712; Third Regiment, 443; Fourth Regiment, 517; First Separate Company, 68; Brigade Signal Corps, 41; Machine Gun Battery, 42; Naval Battalion, 229; grand total, 2,834. Gain during the year, 168.

The congressional apportionment of funds for the militia gives Connecticut \$12,745.

Labor.—The report of the Labor Commissioner says that statistics for 108,782 wage-earners show the average daily wage to have been \$1.52 in 1900, against \$1.40 the year before. The report says further:

"It appears that during the past year 245 manufacturing buildings have been erected. One hundred and seventy-three manufacturing concerns have constructed these factories. They have

been put up in 59 of the 168 towns of the State. The cost of these bare buildings, apart from the machinery that went into them, was \$1,949,104. By the erection of these new factories and additions, employment has been furnished to 3,965 more mill operatives in this State than before.

"From July 1, 1899, to Dec. 1, 1900, there were brought to the attention of this bureau 51 strikes and 2 lockouts. Of these 18 were successful, 12 partially successful, and 23 unsuccessful. Sixteen were for increase of pay, 9 against reduction of time or wages, 1 for nine hours, 9 for discharge of non-union men, 2 for reinstatement of man discharged, 5 on account of dissatisfaction with rules, 2 ordered by head organizations, 2 against increased speed, 2 were sympathetic, 1 for objection to fines, 1 for being docked for poor work, 1 for allowance for overtime, and 2 on account of misunderstandings. The total number idle during the seventeen months covered by this investigation was 5,776."

License.—The returns of the vote on license in October show a net gain of 3 towns for no license. There are now 74 communities in which license is approved by majority vote of the residents, and 94 where it is not.

Products and Industries.—The census report of 1900 on agriculture in the State shows that there were farms to the number of 26,948, comprising 2,312,083 acres, or 74.6 per cent. of the land surface. Of this 1,064,525 acres were improved. The proportion of improved farm land decreased steadily from 74.2 per cent. in 1850 to 46 per cent. in 1900. Such changes in the use of land are incidental to the growth in Connecticut in the last fifty years of the dairy interest and an increase in the area devoted to market-gardening.

In the last ten years the total farm wealth of Connecticut increased \$5,254,872.

The dairy interest, the produce of which in 1899 was valued at \$7,090,188, or 32.1 per cent. of the gross income of farms, stands first in the agriculture of Connecticut. If to this value be added the income derived from poultry and eggs, animals sold and slaughtered, wool and mohair, and honey and wax, the great relative importance of the animal industry is strikingly shown. The aggregate value of these items in 1899 was \$11,651,359, or 52.7 per cent. of the income from all sources.

Most of the good tobacco land is found in Hartford County, which, in 1899, produced 80.2 per cent. of the tobacco raised in the State, and over half of that grown in the 6 New England States.

The report on the manufacturing industries of the State gives the following figures: Number of establishments, 9,128; capital, \$314,696,736; wage-earners, average number, 176,694; total wages, \$82,767,725; miscellaneous expenses, \$23,089,806; cost of materials used, \$165,641,219; value of products, custom work, and repairing, \$352,624,106.

Railroads.—The gross earnings of the rail and boat lines combined for the year ending June 30, 1901, were \$44,295,541.11. For the year ending June 30, 1900, \$44,310,852.76.

The figures for 1901 include the earnings of the New Haven Steamboat Company for a full year, while those of 1900 include only two months.

There have been charged to operating expenses during the year for betterments and new equipment to meet general depreciation \$2,425,814.76, and there have been charged to cost of road and appurtenances \$143,060.97 for purchases of real estate.

The length of main line and branches in the State is 1,013.35 miles. The length of the second

track is 248.55 miles, and the length of the third and fourth tracks is 42.44 miles. There are also 474.49 miles of sidings.

The total length of the street-railways in operation and reporting to the commissioners for the year ending June 30, 1900, is 471 miles, exclusive of sidings. This shows an increase during the year of 54 miles in the length of main tracks.

Dividends were paid by 10 out of the 31 companies reporting amounting to \$322,800.48 upon \$7,325,000 of capital stock, while no dividends have been paid on \$4,818,448 of capital stock.

Insurance.—On Jan. 1, 1901, there were in the State 58,539 policy-holders in life-insurance companies, the amount of insurance outstanding being \$108,163,343. Of this sum \$31,182,546 was in Connecticut companies. The policy-holders in Connecticut companies numbered 18,051. The amount of claims paid in 1900 in Connecticut was \$2,122,342. The Connecticut companies paid \$761,584. The amount of premiums paid was \$4,144,476. The Connecticut companies received \$1,485,176.

Payments in 1900 for taxes, salaries, etc., increased over 1899 with Connecticut companies, \$953,099.55; companies of other States, \$2,112,114.04; and industrial companies, \$882,103.96; a total increase of \$3,947,317.55. The actual increase in principal invested during 1900 was \$54,451,643.40, the market value being in excess of this amount by \$11,381,437.18.

Education.—The school fund, Sept. 30, 1900, was \$2,018,641.29; the cost of its management was \$18,081.28.

The State pays for the instruction of the blind at the Perkins Institute and at a private institution at Hartford, the proprietor of which was till this year a member of the State Board of Education for the Blind under a law of some years' standing requiring that one member should be blind. This provision was repealed by the last Legislature, and another appointment was made. The State Board of Charities recommended that no more special appropriations be made to the institution till after careful investigation. Fifteen State inmates were kept at this institution, and about 19 at the Perkins Institute.

There has been much trouble at the State Agricultural College, formerly called Storrs Agricultural School. The grounds of complaint seem to be, first, that from a strictly agricultural institution it has been made into an academic one; and, second, that the recent administration has been open to criticism, partly on account of lack of discipline and partly on account of neglect to emphasize the work for which the school was founded. Several professors resigned this year, and many students left, so that at the close of the school year only 38 remained. These notified the trustees that they would not return if a certain appointment should be made to the place left vacant by the resignation of Prof. Mayo. At length the trustees, at their September meeting, retired the president by a vote of 7 to 2, continuing his salary to July 1, 1902, though his connection with the college was to cease at once. The college had 22 persons on the salary list, of whom 18 or more were professors or instructors. The regular income consists of \$15,000 from the State, \$25,000 from the Morrill fund, and about \$7,253 from the land-grant fund. Near the end of October 53 students were in attendance. At the last commencement essays were delivered by 10 graduates.

Wesleyan University, at Middletown, graduated in June a class of 68, the largest in its history. At the fall commencement degrees were conferred

upon 576 candidates, of whom 249 received the degree of A. B. Large gifts were made to the university in connection with the bicentennial celebration.

Legislative Session.—The General Assembly met Jan. 9, and adjourned June 17. In the Senate were 22 Republicans and 2 Democrats; in the House, 201 Republicans, 53 Democrats, and 1 Independent. Henry Roberts was president *pro tem.* of the Senate, and John H. Light was Speaker of the House.

Nearly 2,000 measures came before the Legislature; fewer than half were passed, and those were largely incorporations and other private bills. The public acts numbered 184. In 1899 there were 230.

Among the important acts were the resolutions submitting to vote the question of holding a convention for revising the Constitution and also for submitting two amendments, which were passed to their second stage. One was for the election of State officers by plurality vote. The other was to permit the senatorial districts to be increased to 36. These were carried at the October election.

The amendment proposing a change of town representation failed in the House by a vote of 145 nays to 61 yeas, and is left to the constitutional convention with certain restrictions as to the action of that body.

Some new State offices were created: A tax commissioner, with salary of \$3,000, the incumbent to be *ex officio* member of the Board of Equalization; a forester, to be appointed by the Board of Control of the experiment station, and authorized to buy lands for State parks suitable for growing pine and chestnut, at not more than \$4 an acre; a fire marshal, to be appointed by the Governor to serve four years from July 1, 1901, future appointments to the office to be subject to approval of the Senate; a board of voting-machine commissioners; a board of examiners for barbers; an entomologist, to be appointed by the experiment station from the staff. The number of Superior Court judges was increased from 13 to 14. Appointment of truant officers was provided for. The Labor Commissioner was authorized to appoint superintendents for 5 free public employment bureaus; the annual expenses of each bureau are limited to \$2,000; all private employment offices are to be under the supervision of the commissioner.

An important measure was the corporation act, consisting of 63 sections.

A new law for taxation of corporations is designed to make that more equitable.

Another measure was a caucus law designed to prevent the packing of caucuses. Voters must be registered before taking part in primaries, declaring their party preferences.

A new law for the collection of poll and military commutation taxes provides that when any person shall refuse or neglect to pay any poll or military tax assessed against him, he may be sent to jail until the tax, interest, and costs are paid.

A law in regard to itinerant vendors calls for a deposit of \$500 with the Treasurer, a State license fee of \$100, and a local fee of \$25.

The laws of inheritance were so changed that parents inherit before brothers and sisters.

Automobiles must not go faster than 12 miles an hour within city limits, or 15 miles without. Rubber-tired vehicles must show lights at night, unless accidentally prevented. Provision is made for construction and maintenance of bicycle-paths.

The State is entitled to one more member of Congress according to the census and the Federal

apportionment. The fifth representative will be a Congressman-at-large.

Indeterminate sentences of state prison convicts were provided for.

A new general fish and game law was passed, bringing together the many statutes on the subject, making some changes in the closed season and some new provisions.

Other enactments were:

Prohibiting the committing of any boy under ten to the School for Boys at Meriden, except for an offense punishable by imprisonment at the State prison.

Making the maximum penalty for kidnapping, etc., thirty years' imprisonment.

Providing a maximum penalty of \$200 for keeping a billiard-table or slot-machine for purposes of lottery or gaming.

Providing that teaching in schools on the effects of alcohol and narcotics shall be given only to grades above the third. Neglect of such teaching shall be cause for withholding school money by the Comptroller.

Providing that fathers and mothers shall be joint guardians of their minor children; but a court may appoint either parent sole guardian, or other than a parent as guardian.

Making the license laws applicable to the sale of candies containing a liquor or sirup which has more than 1 per cent. of alcohol.

Forbidding contractors, foremen, etc., to receive payment of any kind for furnishing employment to any person.

Prohibiting the use in factories of stained, painted, or corrugated glass injurious to the eyes of workmen.

Requiring manufacturers employing persons under sixteen to procure and keep on file certificates of the age of all such.

Increasing the amount that may be used for the improvement of highways in one year from \$175,000 to \$225,000, and appropriating \$450,000 for the next two years.

Among the appropriations, the amount of which was very large and beyond the limit of the revenue, were the following: \$25,000 for a model school at the State Normal School; \$52,000 for education of the deaf and dumb; \$18,000 for completing the normal school at Willimantic; \$22,500 to the Litchfield County hospital, \$10,000 to the Waterbury hospital, \$6,000 to the Day-Kimball Hospital; \$165,000 for completing the general dining-room at the Connecticut Hospital for the Insane; \$8,000 to Stamford hospital; \$10,000 to St. Francis hospital; \$25,000 to the Hartford hospital to build an experimental hospital for the treatment of pulmonary tuberculosis; \$96,000 for hospitals at Hartford, New Haven, Bridgeport, Danbury, Meriden, New London, and Norwich; \$22,000 for the State Library; \$16,000 for electric lighting of the Capitol building and grounds; \$450,000 for good roads; \$5,500 for School for Imbeciles for filtration bed; \$22,500 for transportation of the General Assembly and its officers; \$60,000 for enlargement of the State prison; \$811,400 for judicial expenses for two years; \$30,000 to pay the commission on revision of the statutes; \$309,775 for military expenses; \$11,000 for Fitch's Home for Soldiers; \$180,000 for the support of sick, wounded, and disabled soldiers, sailors, and marines for two years, and \$15,000 for deficiency for appropriation for the care of sick and wounded soldiers; \$20,500 to supply a deficiency in the appropriation for the care of children in temporary homes; \$50,000 for an armory at Norwich; \$1,181,700 for education; \$1,607,000 for civil purposes, including the insane

hospital, School for Boys, county jails, care of Capitol, etc.; \$78,500 for State officers, librarians, Board of Education and Commissioner of School Fund.

Constitutional Convention.—The question submitted to vote of the people in October was decided in favor of a convention for revising the Constitution, by a vote of 47,317 to 26,745. At the same time the two proposed amendments were voted upon and carried, the one for elections by plurality, by a vote of 49,887 to 14,196, and the other for permitting increase in the number of senatorial districts by 42,804 to 17,811. Delegates to the convention were elected in November—one for each town—168 in all. The number of Republicans elected was 123; Democrats, 45. Of these, 38 were elected by non-partizan vote. The convention met in January, 1902.

Yale's Bicentennial.—The university celebrated the two hundredth anniversary of its founding Oct. 20–23. Delegates were present representing the colleges and universities of America, Europe, Asia, and Australia. The celebration opened Sunday, Oct. 20, with sermons and addresses by the Rev. Joseph H. Twichell, the Rev. Dr. Newman Smyth, the Rev. Joseph Anderson, the Rev. W. W. Battershall, and the Rev. Dr. George P. Fisher. On Monday addresses were made by Thomas Thatcher and W. H. Welch, and President Hadley gave the address of welcome to guests, which was followed by responses of congratulation. In the evening of Monday took place the torchlight procession of graduates and students, which is described as most picturesque and unique. "First came the illumination of the green, when 5,000 lights were turned on and the crowd gasped 'Oh!' But this was only the beginning. Presently the 7,000 lights on the campus, the orange-colored lanterns that hemmed the dormitories, the hundreds of electric bulbs that faced Vanderbilt Hall, the scores of electric lights on the Phelps gateway, the main entrance to the campus during the bicentennial festivities, and the 1,000 other lights on the old quadrangle started into life. Bands played, students cheered, and gray-headed men forgot they were not boys. The parade started promptly through the Phelps Gate, when a great flare of red fire behind Welch Hall announced that the procession was in motion. Headed by the grand marshal, the line of fire proceeded through College and Chapel Streets to Church Street, where it turned to the left and passed the reviewing stand.

"The first section in the second division were the Indians, who were represented by the class of 1902, academics. Their costumes consisted of long, baggy trousers of brown, with red trimmings, bright-red jackets, and a headgear of feathers.

"A company of colonial warriors composed the second section, impersonated by the class of 1902. Their costumes consisted of short trousers of light brown, with long brown stockings, a short coat of the same material, trimmed with white collar and cuffs and a belt of white with a huge steel buckle.

"The colonial troops were followed by the Continental soldiers, composing the third section in the line. These 1903 academic men wore large George Washington hats of blue, with white tassels, coats of blue of the West Point cut, white knickerbockers, white stockings, and low shoes, with immense copper buckles. Their costumes were nearly as striking as those of the 1903 men, who followed them, and who were garbed as representatives of 1812. The costumes of this

fourth section were of the Beau Brummel design, consisting of bright-yellow waistcoat, purple swallowtail coat, with large brass buttons, gray trousers, and a huge beaver hat of tan color with yellow band. The boys wore with this costume white ruffled shirts of the style of those days.

"In the fifth section were the academic sophomores, who were gowned as sailors, with entire costumes of white, trimmed with straps of blue and blue sashes. All the freshmen of the university were Rough Riders in the parade, and as a body of several hundred they made a great showing.

"The students of the medical school, in green caps and gowns; the divinity men, in costumes of red; the members of the law school department, in purple; the Japanese students, in pink; and the art and forest school students as Dominican monks, formed the seventh division in this tremendous aggregation of Yale undergraduates.

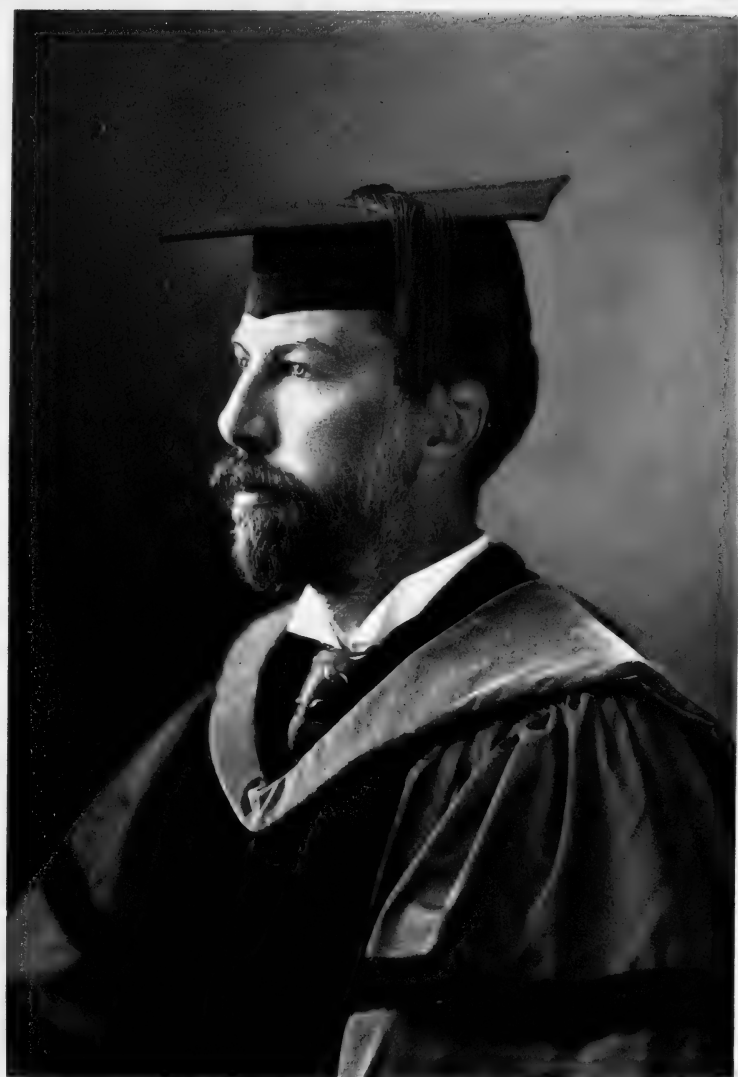
"The youngest alumni of Yale, members of the class of 1901, headed the procession of Yale graduates, who composed, with the visiting delegates, the third division. As Filipinos, in gowns of brown trimmed with red and large brown hats, they created no end of fun along the line of march.

"The visiting delegations of students from Harvard, Princeton, Trinity, and Wesleyan, in academic gowns of their college colors, were followed by the fourth division of the great parade, consisting of the alumni of the university. All wore caps and gowns of the lightest pale blue; and among the 3,500 alumni in line there were members of every class from 1853 to 1901. The prominent features of the parade were the floats and transparencies."

Tuesday morning was dedicated the memorial gateway, an entrance to the campus between Welch and Osborne halls, erected by the class of 1896 in memory of Ward Cheney and Gerard M. Ives, two members of that class who lost their lives in the Spanish-American War. In the forenoon were addresses by Cyrus Northrop, LL.D., and Daniel C. Gilman, LL.D.; in the afternoon, football games and a choral performance; in the evening, a dramatic entertainment by students. Wednesday morning occurred the commemoration service, an address by Justice David J. Brewer of the United States Supreme Court, and a poem by Edmund Clarence Stedman, LL.D. In the afternoon a concert was given, followed by the dedication of Woodbridge Hall, with an address by Donald G. Mitchell, LL.D., and a farewell reception by the president.

President Hadley.—The president of Yale University, Arthur Twining Hadley, is the son of James Hadley (1821–1872), who from 1851 was Professor of Greek in that institution and was an eminent philologist. The son was born in New Haven, April 23, 1856, was graduated at Yale in 1876, and then studied in Berlin. In 1879 he was appointed a tutor in Yale, and in 1886 Professor of Political Science there. He became president of the university May 25, 1899. He has made a special study of railroads, and has written much on economic subjects. His publications include: *Railroad Transportation* (1885); *Connecticut Labor Reports* (1855–'56); *An Account of the Relations between Private Property and Public Welfare* (1896); and *Report on the System of Weekly Payments*.

Norwalk.—On Sept. 11 the town of Norwalk celebrated the two hundred and fiftieth anniversary of its existence as a town, with music, addresses by Rev. A. F. Beard and United States Senator O. H. Platt, and a poem by the Rev. Dr.



Arthur T. Hadley

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J. G. Davenport. The Connecticut court issued a decree Sept. 11, 1651: "Ordered That Norwalke Shall bee a towne, and that they provide an inhabitant according to order, who shall seasonably be tendered to take the oath of a constable."

Old Saybrook.—The two hundredth anniversary of the founding of the collegiate school in which Yale University had its beginning was observed at Old Saybrook, Nov. 11, with appropriate exercises by members of the Yale faculty and sons of the university. Saybrook Point, where a boulder has just been placed to commemorate the site of the old collegiate school, was in holiday array with decorations of Yale blue in profusion. The boulder has a new bronze tablet inscribed: "The first site of Yale College. Founded 1701. Removed 1716." Commemorative exercises were held in the Congregational Church. The historical address was delivered by Prof. Franklin B. Dexter of Yale, and Dr. Samuel Hart spoke in behalf of the townspeople.

DELAWARE, a Middle Atlantic State, one of the original thirteen, ratified the Constitution Dec. 7, 1787; area, 2,120 square miles. The population, according to each decennial census, was 50,096 in 1790; 64,273 in 1800; 72,674 in 1810; 72,749 in 1820; 76,748 in 1830; 78,085 in 1840; 91,532 in 1850; 112,216 in 1860; 125,015 in 1870; 146,608 in 1880; 168,493 in 1890; and 184,735 in 1900. Capital, Dover.

Government.—The following were the State officers in 1901: Governor, John Hunn; Lieutenant-Governor, Philip L. Cannon; Secretary of State, Caleb R. Layton; Treasurer, Martin B. Burris; Auditor, P. B. Norman; Attorney-General, Herbert H. Ward; Insurance Commissioner, George W. Marshall; Adjutant-General, I. P. Wickersham; Chemist, T. R. Wolf; President Board of Pilot Commissioners, J. P. Virdin, succeeded by Alfred D. Poole—all Republicans; Chancellor, John R. Nicholson, Democrat; Chief Justice, Charles B. Lore, Democrat; Associate Justices, Ignatius C. Grubb and William H. Boyce, Democrats, and W. C. Spruance and James Pennewill, Republicans; Clerk, William Virdin, Democrat.

The term of the State officers is four years. They are elected in November of the years of presidential elections. The Legislature meets biennially in January of the odd-numbered years; the session is limited to sixty days.

Census Figures.—Delaware, with a total population of 184,735, has 51 per cent. of males and 49 per cent. of females. One-thirteenth of the population is foreign born. The white and colored races are 83.4 and 16.6 per cent., respectively.

The number of persons of school age, five to twenty years, is 59,635; males of militia age, 40,029; males of voting age, 54,018, of whom 47,202 are native born and 6,816 foreign born. The colored voters aggregate 8,426. There are 54,018 males twenty-one years of age and over, of whom 7,538 are illiterate. Of the illiterates, 6,332 are native born, while 1,206 are foreign born.

Finances.—The Auditor's report gave the following figures for 1900: Balance in treasury in general fund, \$65,152.33; total receipts, \$387,929.20; expenditures, \$273,622.50; balance in school fund, \$34,035.90; total receipts, \$168,329.90; expenditures, \$138,414.54; total receipts of sinking-fund, including balance, \$4,608.86; expended, \$600.

The larger items of expenditure were: Interest on Delaware College certificates, \$4,980; interest on school fund bond, \$9,405; interest on outstanding bonds, \$16,100; salaries of State officers,

\$10,775; salaries of judges, \$24,900; pensions of retired judges, \$3,000; State Hospital, \$15,000; State militia, \$5,000; military, \$10,000; Delaware College government appropriation, \$20,000; State College for Colored Students, \$20,000; appropriation, \$5,000; Industrial School for Girls, \$2,500; free public-school appropriation, \$100,000; maintenance and tuition of beneficiaries in institutions outside of the State, \$2,800; State Board of Health and pathological and bacteriological laboratory, \$2,300.

The items of expenditure of the school fund were: Free text-books, \$18,749.50; apportionment of dividends, \$119,665.04.

The Auditor's estimate of receipts in 1901 was \$482,557.53, and of expenditures \$341,005.

The total assets of the State were given as \$1,118,509.16. Of this, \$10,000 in bank stock and \$385,000 in mortgages were investments for the general fund; \$416,790 in bank stock and \$161,750 in bonds, for the school fund; \$144,967.16 in State buildings (expenditures and improvements in recent years); and \$973,542 in other assets. The total liabilities are \$769,750.

Education.—By the latest report at hand the public schools outside of Wilmington had 22,254 white pupils and an attendance of 15,938.

The report of Delaware College for 1900-1901 shows an enrolment of 92, with a graduating class of 18. In September the entering class numbered 38. There is a regular teaching corps of 15 professors and instructors, besides occasional lecturers from the staff of the Agricultural Experiment Station. This last institution has a staff of 6.

The State College for Colored Students graduated 3 students in May.

A suit before the Supreme Court in January turned on the question whether the provision in the school law of 1861 limiting the amount that could be spent in one year for improvements to \$500 is still binding. The court held that the act was repealed by the general school law of 1898, which imposes no limit.

Charities.—As the State has no institutions for deaf-mute, blind, and imbecile children, a limited number are sent to institutions of other States. At the beginning of the year there were 11 pupils from Delaware in the Columbia Institution for the Deaf and Dumb. These pupils are maintained and instructed at an expense to the State of \$250 per annum each. There were in the Pennsylvania Institution for the Deaf and Dumb 2 pupils, for whom \$260 each was paid. In the Pennsylvania School for the Feeble-Minded 10 pupils were kept at an annual expense of \$200 each. The present statutes limit the number of deaf, dumb, and blind children who can be sent from this State to 5 from each county, and the number of feeble-minded or imbecile children at 14 from the State.

There were 329 inmates at the State Hospital for the Insane Jan. 1. The report showed that at the end of the fiscal year, Dec. 1, on account of an increased number of patients and the increased cost of nearly every article purchased, there was a deficit of about \$8,000, and on Jan. 1 a deficit of about \$17,000.

Corrections.—The Ferris Industrial School for Boys, at Wilmington, has 75 inmates. The charter provides that Newcastle County shall pay \$100 for each boy committed from the county, provided that the sum does not exceed \$5,000 in one year. Boys are also admitted from the other counties, but no appropriations from them are provided for. The gross product of the farm in 1900 was \$4,500; the total receipts, \$29,391.76; expenditures, \$23,238.35.

The Girls' Industrial School also receives inmates from all parts of the State. It receives an appropriation of \$2,500.

Militia.—According to the Adjutant-General's report, 42,123 men were subject to enrolment and 28,080 subject to military duty. The total strength of the organized National Guard is 372, of whom 321 are privates. For the year 1900, receipts from the State amounted to \$5,078.44, and disbursements to \$3,308.16. In 1898 the Legislature appropriated \$30,000 to equip and prepare troops for the Spanish War; of this, \$23,150.36 was expended. The Government returned \$20,870.83, leaving in the hands of the State officials certain ordnance supplies. The Governor paid \$3,100 to the Adjutant-General and another officer for preparing and presenting the accounts to the proper officials at Washington.

Railroads.—The report of the Delaware Railroad shows its mileage to be 224.38. For the year ending Oct. 31, 1900, the earnings were \$1,646,660.34, an increase of \$256,123.88. The expenses were \$1,112,440.97; increase, \$123,697.45.

There was a very large increase in the freight revenue due to the increasing through traffic from connecting lines and to the improved fruit-crop on the peninsula.

Work was begun in May on a new trolley belt line which will touch the Delaware river, the Atlantic Ocean, and Chesapeake Bay. The combination constituting the circuit includes 45 miles of trolley traction already in operation and 100 miles which are to be built.

Insurance.—The Insurance Commissioner, who took office Jan. 1, made a report about Feb. 12, saying, in part:

"From the books of my office, as audited by the auditor of accounts from Oct. 1, 1898, to Jan. 1, 1901, I find the amount turned into the State treasury was \$38,823.81, exclusive of the salary of the commissioner. There is no record of expenses in the office.

"The insurance law specifies that the Insurance Commissioner shall grant certificates of authority to Delaware companies only when they shall have a paid-up capital of \$100,000. The General Assembly, at dates later than the passage of the general insurance law, has at various times granted special charters to insurance companies with a paid-up capital of less than \$100,000, and in some instances as low as \$25,000."

Products.—A census bulletin giving statistics of manufactures of Delaware places the total value of manufactured products for the State at \$45,387,630, an increase of 20.8 per cent. over the value of such products for 1890. The number of establishments in 1900 was 1,417; capital invested, \$41,203,239; average number of wage-earners, 22,203; total wages paid, \$9,263,661; cost of material used, \$26,652,601. The net or true value of products is given at \$29,573,449, the value of material purchased in a partly manufactured form being \$15,864,041.

Chief Statistician North, who makes the report, says: "The statistics indicate a healthy growth in manufactures of Delaware, although a decline is observable in cotton manufactures, in which the number of mills has decreased from 7 to 3; the manufacture of fertilizers, in which the number of establishments has fallen from 17 to 11; and the carriage and wagon manufacture, in which the number has fallen from 44 to 36. On the other hand, iron and steel manufactures, shipbuilding, foundry and machine-shop products, and the tanning and finishing of leather, show large and gratifying increases."

There are 9,687 farms in Delaware, with an

aggregate area of 1,066,228 acres, of which 754,010, or 70.7 per cent., are improved.

The recent decline of fruit-raising has led to the substitution of other branches of farming, and an increase in the production of market-garden truck, corn, and wheat. It has also stimulated the growth of the dairy and poultry interests.

The peach-crop of 1901 was estimated at 2,000,000 baskets.

Business.—Reports are given of 20 business failures in the State in 1900, with liabilities of \$106,477, and assets \$55,790. The preceding year there were 30, but the liabilities amounted to about \$10,000 less, while the portion not covered by assets was about \$2,000 less.

Cooch's Bridge.—A notable event in the history of the State was the unveiling, Sept. 3, of a monument at Cooch's Bridge to commemorate the first unfurling of the American flag in battle, Sept. 3, 1777. The monument, which was erected by patriotic societies and citizens, is of Brandywine granite, and stands in the roadway. Beneath a representation of the original flag of 13 stripes and 13 stars is the inscription: "The Stars and Stripes were first unfurled in battle at Cooch's Bridge. Erected by patriotic societies and citizens of the State of Delaware, Sept. 3, 1901." The very handsome stone, standing 8 feet high, is enclosed in a square, the corners of which are marked by cannon, and the sides by heavy anchor chains.

Legislative Session.—The biennial session of the General Assembly began Jan. 1 and ended March 8. It stood, politically, on joint ballot, 29 Republicans and 23 Democrats. The Republicans were still divided, as they have been for years, into two factions—the so-called Regular Republicans, represented by 11 members of the Legislature, and the so-called Union Republicans, of whom there were 18. Harry C. Ellison, Regular, was President *pro tem.* of the Senate, and Representative McCommons, Union, was Speaker of the House, the two factions having compromised on the organization.

Two United States Senators should have been elected, one to fill the vacancy for the term ending in 1905 and one to succeed Richard R. Kenney, whose term expired March 4, 1901. Forty-five ballots were taken, but no candidate received the 27 votes necessary to an election, so that the State will be unrepresented in the United States Senate for at least two years, unless a special session should be called and should succeed in electing. The Union Republicans voted steadily for J. E. Addicks for both terms. The Democrats voted for R. R. Kenney for the long term and Willard Saulsbury for the short term. The Regular Republicans voted scatteringly. Among their candidates were H. A. Du Pont, Charles F. Richards, L. C. Bird, Anthony Higgins, and H. R. Burton.

An incident of the senatorial contest, which was very bitter and excited, was a charge made by Representative W. M. Hearn, Democrat, against Representative R. R. Layton of an attempt to bribe him with \$2,000 to remain away from a session, in the interest of the Union Republican candidate. The majority report of the investigating committee recommended that the evidence and the entire matter be referred to the Attorney-General for such action as he should deem best; this report was adopted, and the matter so referred. The minority of the committee reported that the charges had not been sustained.

The law for taxing manufactures was amended. Under the old law, the tax imposed was 10 cents on the \$100 on the cost of material used in busi-

ness during the preceding year, and 10 cents on the \$100 on the cost of labor. The amended law provides, first, for the payment of an annual license fee of \$5; next, an annual payment upon the aggregate value of the real and personal property comprising the plant, the sum of $\frac{1}{10}$ of 1 per cent. per \$1,000, or 50 cents per thousand, up to a valuation of \$3,000,000; over that amount, $\frac{1}{10}$ of 1 per cent., or 25 cents per thousand.

The law providing for two State detectives was repealed and the office abolished March 12, and March 15 the office was reestablished and the Governor was authorized to appoint two detectives, which he did. The former incumbents, who were thus legislated out of office, contest this action.

Two acts concerning fox-hunting were passed—one making it unlawful to hunt foxes between May 1 and Aug. 31, and the other making it unlawful to shoot at, kill, or destroy any fox while such fox is being chased or pursued by a dog or dogs. The penalty for the former act is \$10 fine or ten days in jail; for the latter, a fine of \$20 to \$50, or imprisonment not less than ten days.

A new law was made for the protection of birds. Game-birds, as intended in the act, are named, and the English sparrow, the redwing blackbird, and the purple grackle, or crow blackbird, are excepted; and any one may kill a bird found on his own premises destroying his grain, fruit, or poultry, but may not sell it. The act further authorizes the Governor to appoint annually an arbor and bird day.

An act was passed increasing the membership of the levy court of Newcastle County from 5 to 7, and authorizing the Governor to appoint the additional members for the time being. This, it was contended, was beyond the powers of the Legislature.

It was made a prerequisite for receiving the State school money that each white district should have raised by taxation \$100 and each colored district \$50.

A resolution was passed for submission of an amendment to the Constitution in regard to corporations; also a joint resolution requesting Delaware's Senator and Representative in Congress, if in their judgment they can wisely do so, to support a bill for the purchase of Temple farm and Moore House, at Yorktown, Va., by the Government of the United States.

In all, 238 bills were passed. Among those of public interest not already mentioned were the following:

For the corporal punishment of wife-beaters.

For the suppression of gambling by means of slot-machines or other devices.

Changing the time when reedbirds may be killed.

Amending the act for the protection of women.

Providing for the appointment of an oyster-revenue collector.

For the improvement of the Christiana river.

Providing a free ambulance service for the city of Wilmington.

Making Abraham Lincoln's birthday, Feb. 12, a legal holiday.

Enabling the cities and incorporated towns to receive one-third of the liquor-license fees collected therein.

Amending the act to prevent the spread of diseases among cattle so as to make it cover tuberculosis.

Providing for the establishment and maintenance of free public libraries.

Appropriating \$150 for colored teachers' institute, and \$450 for institute for white teachers.

Amending the law on imitations of butter.

For the improvement of the schoolhouses for colored children, and making an appropriation therefor \$6,000 annually.

Appropriating money to the Christiana Society for the Prevention of Cruelty to Children.

The Governor vetoed a bill for making life-grade certificates of teachers valid for qualification for the office of county superintendent of schools. He also vetoed a bill legalizing the shooting of live pigeons in matches.

Judicial Decision.—The majority decision rendered by the Supreme Court in May, in an action against the so-called Adams law passed in 1897 for the taxation of investments, was to the effect that the law is invalid on account of the fact that an amendment to one section which was passed in 1898 was unconstitutional because taking up a subject not within the title of the act; and that the unconstitutional provision could not be separated from the other parts of the law and leave them operative.

FLORIDA, a Southern State, admitted to the Union, March 3, 1845; area, 58,680 square miles. The population, according to each decennial census since admission, was 87,445 in 1850; 140,424 in 1860; 187,748 in 1870; 269,493 in 1880; 391,422 in 1890; and 528,542 in 1900. Capital, Tallahassee.

Government.—The following were the State officers during the year: Governor, William S. Jennings; Secretary of State, John L. Crawford; Treasurer, James B. Whitfield; Comptroller, W. H. Reynolds, Alonzo C. Croom (appointed on death of Reynolds); Attorney-General, William B. Lamar; Superintendent of Public Instruction, William N. Sheats; Adjutant-General, Patrick Houstoun, J. Clifford R. Foster (appointed on death of Houstoun); Commissioner of Agriculture, Benjamin E. McLin; State Chemist, R. E. Rose; State Auditor, W. V. Knott; Railroad Commissioners, H. E. Day, J. L. Morgan, J. M. Bryan; State Health Officer, Dr. Joseph Y. Porter; Board of Health, E. M. Hendry, Horace E. Simpson, M. D., N. B. Broward; Chief Justice of the Supreme Court, R. F. Taylor; Associate Justices, Milton H. Mabry, Francis B. Carter; Supreme Court Commission, W. A. Hocker, J. G. Glen, E. C. Maxwell; Supervisor of Convicts and Convict Camps, Robert F. Rogers.

The term of the State officers is four years. They are elected in November of the years of the presidential elections. The Legislature meets biennially on the first Tuesday after the first Monday of April of the odd-numbered years. The session is limited to sixty days.

Population.—The Federal census of 1900 divided the population of the State (528,542) as follows: Males, 275,246; females, 253,296; native born, 504,710; foreign born, 23,932; total white, 297,333; native white, 278,076; foreign parents, 24,044; foreign white, 19,257; total colored, 231,209. Persons of school age, 197,600; males of militia age, 114,500; males of voting age, 139,601; foreign males of military age, 7,934; colored, 53,723, of which 53,546 are negroes. Foreign born of voting age, 11,736; colored, 61,417.

The population of the largest 10 cities in 1900 was as follows: Jacksonville, 28,429; Pensacola, 17,747; Key West, 17,114; Tampa, 15,839; St. Augustine, 4,272; Lake City, 4,013; Gainesville, 3,633; Ocala, 3,380; Palatka, 3,331; Fernandina, 3,245.

Finances.—The Treasurer's report gives the following figures: Balance in treasury, Jan. 1, 1901, \$277,885.10; receipts during the year from all sources, \$544,040.85; disbursements in 1901, \$631,443.83. Balance in treasury, Jan. 1, 1902,

\$190,482.94. Received in 1901 from State taxes, \$230,647.65; from State license taxes, \$228,905.69. The total debt of the State on Jan. 1, 1902, was \$1,032,500, divided as follows: Bonds in State school fund, \$650,100; in Agricultural College fund, \$135,800; in Seminary fund, \$98,600; in hands of individuals, \$148,000,000.

All the outstanding 7-per-cent. bonds of the State issued in 1871 to mature Jan. 1, 1901, were taken up as investments by the State educational funds. These 7-per-cent. bonds, amounting to \$267,700, were refunded in consolidated manuscript 3-per-cent. bonds, issued to the State educational funds, and the 7-per-cent. bonds were destroyed. The State educational funds will take up as investments all outstanding 6-per-cent. bonds of the State issued in 1873, now amounting to \$764,800, and they will at their maturity, Jan. 1, 1903, be refunded in 3-per-cent. bonds, to be issued to those funds. The total outstanding bonds of the State amount to \$1,032,500. After Jan. 1, 1903, all these bonds will be held by the State educational funds as investments, and will bear 3 per cent. interest. The State has no floating debt. The interest on the bonded indebtedness of the State paid in 1901 amounted to \$68,776.50.

Valuations.—The assessed valuation on property of all kinds for 1900 was \$96,686,954, an increase of \$3,159,600 over the assessed valuation for 1899. The report of the Comptroller gives the following data: Number of horses, asses, and mules, 53,055; neat and stock cattle, 484,661; sheep and goats, 116,236; hogs and dogs, 288,919; full cash value of animals, \$4,834,698; value of all other personal property, \$12,163,354; aggregate value of all real estate, \$60,175,465; personal property, \$16,998,052; railroads and rolling stock, \$19,250,113; telegraph-lines, \$263,324. Total value of property returned for taxation in 1900, \$96,686,954.

Banks.—According to the statement of the Comptroller, on Jan. 1, 1901, 23 incorporated banks were doing business under the laws of the State. At the close of business Dec. 31, 1900, their assets amounted to \$4,773,016.11, an increase over the assets on Jan. 1, 1900, reported as \$3,862,541.21, of \$910,474.90. Five of the State banks are savings-banks, or have savings departments. On Jan. 1, 1901, these reported assets of \$2,061,974.57.

Education.—The latest report of the Superintendent of Public Instruction, covering the years 1899-1900, gives these statistics: Number of schools in 1900, 2,443; for whites, 1,813; for negroes, 630. School population (six to twenty-one years of age) in 1900, 161,428, divided as follows: White, 93,351; negro, 68,077. Children enrolled in public schools in 1900, 108,874, divided as follows: White males, 34,249; white females, 32,828; negro males, 19,716; negro females, 22,081. Average length of school term in 1900, both races, ninety-three days, divided as follows: Whites, 95; negroes, 87. Illiterates between ten and twenty-one, both races, 4,031, divided as follows: Whites, 779; negroes, 3,252. The United States census of 1900 gives the percentage of illiterates above twenty-one years in the State as 8.4, next to the lowest among the Southern States.

Number of teachers employed in 1900, both races, 2,729, divided as follows: White teachers, 2,084; negro teachers, 645; white male teachers, 713; white female teachers, 1,371; negro male teachers, 294; negro female teachers, 351. Average monthly salaries paid teachers, both races, in 1900, \$34.58, divided as follows: White teachers, \$36.81; negro teachers, \$27.67; white male teachers, \$42.20; white female teachers, \$34.22; negro

male teachers, \$29.06; negro female teachers, \$26.36. Expenditures for schools, both races, in 1900, \$656,804, divided as follows: White schools, \$522,919; negro schools, \$133,885. Per capita cost of all schools in 1900 for each person in the State, \$1.24; per pupil enrolled, \$6.03.

The appropriation of the State in 1900 for the partial support of normal, military, and industrial schools was \$42,626.92.

The school for the deaf and blind had an enrolment of 65 for the school year ending June 30, 1901, divided as follows: White, 42; negro, 23; white deaf boys, 17; white deaf girls, 17; white blind boys, 6; white blind girls, 2; negro deaf boys, 10; negro deaf girls, 8; negro blind boys, 5. The appropriation for the school for the year ending June 30, 1901, was \$10,000. The Legislature of 1901 increased the amount of the annual appropriation to \$12,000, and made a separate appropriation of \$4,500 for repairs and other expenses.

Charities.—The Hospital for the Insane on Jan. 1, 1901, had 600 patients. In the year, up to Dec. 25, 1901, 270 new patients were admitted. These were: Whites, 166; negroes, 104; white males, 96; white females, 70; negro males, 67; negro females, 37. More patients were admitted during 1901 than during any previous year in the history of the hospital. The State in 1900 expended \$68,302.63 in the maintenance of the hospital. The average monthly per capita expense in 1900 was \$9.36.

Agriculture.—Reliable sources give the following data as approximating the value of the State's agricultural productions in 1900: Sea island cotton, \$2,125,000; upland cotton, \$1,400,000; corn, \$2,500,000; oats, \$270,000; sweet potatoes, \$735,000; Irish potatoes, \$80,000; sugar-cane products, \$645,500; rice, \$75,000; field peas, \$315,000; hay, \$245,000; peanuts, \$1,500,000; tobacco, \$720,000; cabbage, \$110,000; beans, \$175,000; celery, \$125,000; tomatoes, \$1,000,000; other vegetables, \$193,000; watermelons and cantaloups, \$225,000; strawberries, \$245,000; peaches and pears, \$90,000; oranges, \$1,212,500; grapefruit, \$182,000; pineapples, \$600,000. Number of cattle in the State, 460,000; value of cattle marketed, \$1,433,320; number of sheep, 75,000; value of wool, \$60,000; number of hogs, 320,000; value marketed, \$320,000; value of poultry sold, \$250,000; value of eggs sold, \$400,000; value of dairy-products, \$840,000; value of honey, \$40,000.

The secretary of the State Agricultural College makes the following statements: The State has the largest apiary in the world, 3,000 colonies; the largest watermelon farm in the world, 2,300 acres; the largest tomato farm in the world, 250 acres; the largest pineapple plantation in the world, 65 acres; the largest cigar-tobacco farm in the world, 1,000 acres; the largest fenced stock-range east of the Mississippi, 25,000 acres; the largest flock of sheep east of the Mississippi, 15,000 head; the largest velvet-bean plantation in the world, 1,300 acres; the largest citrus-tree nursery in the world.

Railroads and Telegraphs.—The railroad mileage in Florida in 1901 was 3,147.13 miles of main track, with 361.21 miles of branches and sidings. The assessed valuation of the railroads in the State was \$19,323,699.16. In 1900 the mileage of the main track was 3,109.70 miles, with 341.32 miles of branch, side, and switch track. The total assessed valuation in 1900 was \$19,190,310.81. The gross earnings of the railroads doing business in Florida were \$7,142,134 in 1900; operating expenses, \$5,252,821.

There were 2,952.40 miles of telegraph-lines

assessed in 1901, ranging from 1 to 55 wires to each pole. The total assessed valuation for the telegraph-lines of the State was \$258,134.20. In 1900 there were assessed 3,048.40 miles of telegraph-lines, at a valuation of \$259,317.40.

Insurance.—The last statement of the State Treasurer gives 83 insurance companies authorized to do business in the State in 1900. Of these 54 were fire insurance companies, 10 life insurance companies, 19 miscellaneous insurance. The aggregate losses of the fire insurance companies in 1900 were \$438,228.24, and the receipts for the same period \$808,703.31. Nine life insurance companies reported loss of \$265,455.32; receipts of the 10 doing business were \$918,526. Seven of the miscellaneous companies reported no loss; the aggregate losses of 12 were \$38,765.08; the receipts of the 19 companies doing business in the State were \$95,596.06. The total profits of all insurance companies doing business in the State were \$1,080,377.44 for 1900.

Fish and Sponge.—The number of barrels of fish caught in 1900 was 177,950, value \$983,000. The yield and value of the sponge-fisheries of the State, as stated by the United States Commissioner of Fish and Fisheries in his last report, were as follow: In 1895, 306,120 pounds, value \$386,871; in 1896, 236,311 pounds, value \$273,012; in 1899, 304,400 pounds, value \$367,914; in 1900, 364,999 pounds, value \$567,685. Five million shad fry were placed in Florida streams in 1901 by the State Fish Commission.

Penitentiary.—On Dec. 31, 1901, there were 923 State convicts, of whom 119 were white and 904 colored, divided as follow: White males, 118; white females, 1; negro males, 888; negro females, 16. In the year 1901 8 convicts died from natural causes, and 2 were killed while endeavoring to escape; 15 escaped, and 13 were pardoned. In 1901, 220 convicts were discharged by limitation of sentence, and 401 new prisoners were committed.

The death-rate in 1901 was remarkably low. The condition of the State convicts has much improved since they were placed under the charge of a State supervisor; they are furnished with comfortable quarters and good food and clothing. Before the appointment of a State supervisor to visit the camps at which the convicts are worked and enforce compliance with the convict laws the convicts were made to work and to sleep in shackles; they are now freed from all chains, and the number of escapes is 50 per cent. less.

Corporations.—The following figures, including the period from Dec. 31, 1900, to Dec. 1, 1901, are believed to be accurate: Articles of incorporation issued, 88. These included 18 to manufacturing enterprises, 1 to building and loan association, 13 to transportation, dockage, and telephone companies, 4 to mutual benefit associations, 2 to fair associations, 3 to agricultural enterprises, 2 to mining companies, 10 to land companies, 5 to publishing companies, 3 to banking companies. Lumbering enterprises on a very large scale were undertaken this year, which also saw the beginning of boring for coal-oil.

Militia.—The authorized strength of the Florida State troops is: 1,024 privates, 229 non-commissioned officers, 109 field and staff officers. The actual strength on Jan. 1, 1901, was: Governor's staff, 10; officers of all ranks, 106; enlisted men, 1,084; a total of 1,200 men. During the year 1901 the expenses of the State troops amounted to \$4,011.82; expenses of troops for military occupation of Jacksonville after the great fire, \$12,734.66.

Jacksonville.—The metropolis of the State was nearly destroyed by fire on May 3. The fire

was started by a spark from a chimney which fell into a pile of fiber, and fanned by a high wind, and in a few minutes was beyond control. An area of 455 acres, having 1,000 houses, was burned over in about six hours. One block in the limits of the old incorporation was totally destroyed; 50 of these were burned out of the remainder the finest residence portion of the city; and 9,501 persons were burned out of the number of places of business. The property loss is estimated at about \$11,000,000, with about \$2,000,000 of insurance. The city received outside relief amounting to \$240,000 in money, and about \$60,000 in supplies. It showed wonderful recuperative power, and at the end of eight months from the time of the fire had issued nearly 1,400 building permits, generally for a better class of buildings than those destroyed.

Legislative Session.—The biennial session of the Legislature opened on April 2 and ended May 31. A large number of bills were passed, few being of general importance. The appropriations for educational purposes were unusually liberal; and extraordinary measures were taken for the relief of sufferers by the Jacksonville fire, and for the purpose of reestablishing legal records and papers destroyed in the fire.

Gov. Jennings, in his message to the Legislature, said: "One of the most important questions for your consideration is that of taxation. Under our present system of valuation, property in some of the counties is assessed at 90 per cent. its value, and in others at less than 20 per cent. I recommend a board of equalization." This suggestion was acted upon.

The most important acts passed by the Legislature are as follow:

To provide for the inspection and analysis of and to regulate the sale of commercial fertilizers, manurial chemicals, cottonseed meal, castor pumice, tobacco-stems, tobacco-dust, or tobacco-meal.

To amend an act to provide for a board of phosphate commissioners and an inspector of phosphate.

To authorize any person, association, or union of working men to adopt and use a label or trademark, to protect the same by law, to provide for its record.

To protect contractors, mechanics, and material men, and to provide for summary collection of moneys due them for wages or materials furnished.

To authorize a married woman under age to convey real estate.

To regulate the holding of political primary elections.

A joint resolution favoring the election of United States Senators by the people was passed.

To provide for the issue, custody, redemption, sale, and transfer of tax-sale certificates, and the issue of tax deeds. This act is an attempt to rectify a state of affairs that has caused the State much loss of taxes, and property-holders much hardship.

GEORGIA, a Southern State, one of the original thirteen, ratified the Constitution Jan. 2, 1788; area, 59,475 square miles. The population, according to each decennial census, was 82,548 in 1790; 162,686 in 1800; 252,433 in 1810; 340,985 in 1820; 516,823 in 1830; 691,392 in 1840; 906,185 in 1850; 1,057,286 in 1860; 1,184,109 in 1870; 1,542,180 in 1880; 1,837,353 in 1890; and 2,216,331 in 1900. Capital, Atlanta.

Government.—The following were the State officers in 1901, all of whom hold through the year 1902: Governor, Allen D. Candler; Secretary of State, Philip Cook; Treasurer, Robert E. Park;

Comptroller-General, William A. Wright; Attorney-General, Joseph M. Terrell, succeeded Feb. 1, 1902, by Boykin Wright; Adjutant-General, J. W. Robertson; Commissioner of Agriculture, O. B. Stevens; Geologist, W. S. Yeates; Chemist, J. M. McCandless; Special Attorney of Western and Atlantic Railroad, E. T. Brown; Pension Commissioner, John W. Lindsey; Entomologist, W. M. Scott; Librarian, James Brown, succeeded by C. J. Wellborn in November, 1901; Railroad Commissioners, S. R. Atkinson, J. Pope Brown, G. Gunby Jordan; Prison Commissioners, J. S. Turner, C. A. Evans, Thomas Eason; Chief Justice Supreme Court, Thomas J. Simmons; Associate Justices, Samuel Lumpkin, Henry T. Lewis, Andrew J. Cobb, William A. Little, William H. Fish; Clerk, Z. D. Harrison; Court Reporters, George W. Stevens, John M. Graham—all Democrats.

The term of the State officers elected by the people is two years. They are elected the first Monday in October of even-numbered years. The Legislature is elected for two years, and meets annually on the fourth Wednesday in October for a session of fifty days.

Finances.—During the year Gov. Candler was authorized to borrow \$200,000 with which to tide over casual deficiencies. The Treasurer, instead of securing the loan from Eastern houses, decided to borrow from Georgia banks, and obtained the money at the rate of 2-per-cent. interest, when Eastern banks were receiving 3 per cent. for similar loans. The balance in the treasury Jan. 1, 1902, was \$1,356,525.99. The bonded debt of the State Jan. 1, 1902, was \$7,631,500. On Jan. 1, 1902, \$100,000 of bonds was retired, and the same amount will be retired on the 1st of every January. The annual interest charge on the bonded debt is \$325,800.

The records of the Comptroller-General show that the State owns the Western and Atlantic Railroad, running from Atlanta to Chattanooga, Tenn., 139 miles. This property is estimated in value at \$12,000,000. The State owns 186 shares of the Georgia Railroad and Banking Company, worth \$20,700, and 440 shares of stock of the Southern and Atlantic Telegraph Company, estimated in value at \$10,000.

Valuations.—The value of all taxable property in the State for 1901 is \$456,347,034, showing an increase over 1900 of \$23,023,343. The increase for the year in railroad property alone was \$6,385,619. The increase in manufactures was \$5,777,228, and the increase in merchandise \$3,454,492. The total amount of property returned for taxation by the negroes of the State was \$15,629,811, an increase of \$3,000,000 during the past ten years. The increase in the value of railroad property since 1890 was \$13,000,000.

Appropriations.—The appropriations for 1901 were as follow: To the State University, \$8,000; Academy for the Blind, \$18,000; School for the Deaf, \$25,000; State Sanitarium, \$290,000; State School of Technology, \$40,000, and for buildings, \$16,000; Georgia Normal and Industrial College, \$22,900; North Georgia Agricultural College, \$7,000; State Normal School, \$22,500; Negro College, at Savannah, \$8,000; printing, \$15,000; Public Building fund, \$17,500; fire insurance, \$24,000; Supreme Court reports, \$7,500; disabled Confederate veterans, \$190,000; indigent veterans, \$300,000; widows of Confederate veterans, \$200,000; indigent widows of soldiers, \$100,000; geological department, \$8,000; prison department, \$112,000; additions to State Sanitarium (special), \$150,000; addition to State University (special), \$45,000; other special appropriations, \$15,000. The additional appropriations available in 1902 are the

sum of \$500,000 to build a new union depot on the property of the State in Atlanta, \$19,000 to rebuild the Confederate Soldiers' Home, \$20,000 for the State militia, and \$63,500 additional to the fund for indigent veterans.

Banks.—The capital of State banks is \$9,315,127.50. There are also in Georgia 32 national banks, with capital of \$4,416,000, and 51 private banks, 8 of which are branches of State banks. State Treasurer Park says in his report: "There has been an increase of 24 banks in the State since I entered upon my duties as Treasurer and State Bank Examiner, and the deposits have grown proportionally. There were examined in 1900 134 banks, and 169 were examined in 1901. There are chartered at the present time 175 banks. The total increase in loans made by Georgia banks from Nov. 1, 1900, to Sept. 5, 1901, was \$5,393,945.81." In 1901 only one failure was reported among the State banks. Figures prepared by the department show that the heaviest depositors in the State as a class are the farmers. The following figures show the condition of the Georgia State banks in 1901: The resources were—Loans, \$33,147,888.60; overdrafts, \$479,701.98; bonds and stocks, \$2,430,067.06; real estate, furniture, and fixtures, \$1,799,961.97; due from banks and bankers, \$3,622,947.62; cash on hand, \$2,484,397.89; other items, \$153,243.35; total, \$44,118,208.47. The liabilities were—Capital paid in, \$9,315,127.50; surplus and net profits, \$3,766,876.44; due banks and bankers, \$986,765.45; due unpaid dividends, \$18,958.52; due depositors, \$23,585,161.77; rediscounts, \$1,689,204.43; bills payable, \$4,752,918.33; other items, \$3,196.03; total, \$44,118,208.47.

Education.—The report of the State School Commissioner, issued in September, 1901, shows a total enrolment in the public schools of 484,385. The public-school fund for 1901 was \$1,505,127, and the same fund for 1902 is \$1,538,955.17. The negro common schools have the same term as the white schools, and the enrolment of negro children is 45 per cent., while that of the whites is 55 per cent. This shows a large increase in the percentage of negroes attending schools. Lack of capable teachers is assigned as the greatest drawback to the negro's education. The School Commissioner is authority for the statement that not 10 per cent. of negro teachers are capable of teaching. The Slater educational fund distributes \$5,000 to negro schools in Georgia. The Peabody fund gives \$6,000 to white schools and \$1,500 to negro schools. Practically \$2,000,000 is invested in negro schools for higher education by philanthropic people at the North and East. This is more than all the white schools in the State of similar character are worth. In the rural districts the poor whites depend on the bounty of a poverty-stricken treasury for their education, while Northern philanthropy provides for the children of the negroes.

The public schools have had the largest enrolment in their history during the past year. All the secondary schools and colleges, without exception, have had largely increased patronage. In almost every county there was held during the past summer an educational rally, generally in the form of the county institute. Under the present law only \$25 is allowed for the pay of an institute teacher. At the meeting of the county superintendents in May, 1901, a resolution was passed urging the Legislature to increase the salary of institute teachers, and also to lengthen the institute term to two weeks.

In the mountainous portions of Georgia the condition of illiteracy is deplorable. Of the peo-

ple in this section, President Branson, of the State Normal School, says: "I spent a few days in the mountains recently; the people I found there might just as well have been born without fingers, so useless are their hands. It is pitiful. They can neither cook nor sew. Apparently they can do nothing except hoe small patches of corn, hang together a few rags for clothes, and beat their dirty linen with paddles. Their homes are wretched hovels; their surroundings are forbidding, and their minds are sunken into a kind of pauperism out of which it seems impossible to rouse them. Of course there are better people in these mountains, as elsewhere in the State; but the superstructure of our civilization rests on miasms of ignorance, superstition, dirt, and insensibility to things above mere animal existence."

In his annual report for 1901, State School Commissioner Glenn says: "We have 665,000 children of school age. Eight-ninths of these children are in the rural districts. They go to school less than one hundred days in the year. The teachers of these children receive as their pay an average of less than \$130 for their services in each one of the rural schools. The day laborer in the streets of Atlanta receives more pay for his toil than we pay to the average district-school teacher, and yet the teachers are expected to be experts. There is a growing demand for teachers, especially in the rural schools, who can teach manual training, elementary agriculture, and other studies that are known to be necessary for a well-rounded development of the child."

Prisons.—Oct. 1, 1901, there were on hand 2,245 State convicts, distributed among the convict camps and at the prison farm at Milledgeville. Of this number, 258 were white and 1,987 colored. Of boys and girls under fifteen years of age there were 22. The number of women in the Penitentiary is 85, of whom 6 are whites and 79 blacks. Of those in the Penitentiary, 1,028 can read and write; 202 can read only; and the remainder, 1,015, are wholly illiterate. From a financial standpoint the operation of the new lease system has been a decided success. The establishment of the prison farm at Milledgeville was brought about for humane purposes; in order that the old and infirm and diseased, together with women and children, might be taken away from the convict camps and away from associations with hardened criminals. At the prison farm are 261 convicts, of whom 157 are men, 85 are women, and 19 are boys under fifteen years of age. The burden of farm work falls upon the women and boys, who are, as a rule, strong and healthy, and who not only make their own support but assist to a large extent in making a support for the men. The prison farm is one of the largest agricultural establishments in the State, and the income derived from it not only makes it self-supporting but turns into the treasury a large sum every year.

The system of pardoning is such that the Governor, in whom the real pardoning power is vested, seldom or never exercises that authority, leaving the applications of convicts entirely with the Prison Commission. In 1901 the Commission passed upon 216 applications for pardon. In a vast majority of them it declined to recommend.

Under the new lease system, which has taken the convicts out of the control of contractors, where they were subjected to many brutalities, and placed them in the State's control, Georgia realizes a larger sum from convicts than ever. In conformity with the new act, the labor of the convicts has been leased for five years, and

\$100 a year is the average price per capita for the convicts' labor, compared with the lessees of this labor have subleased at enormous profit, some of them getting as much as \$250 per capita.

Minerals.—The value of the gold mined in Georgia from 1895 to 1901 is estimated at \$546,006. In the Gold Bulletin of his department, State Geologist Yeates says: "I do not believe that the Georgia mines may be expected to produce bonanzas, and the fortunes to be made in a day will be exceedingly rare, but there is every reason to believe that when properly developed and equipped for operation, the gold-mines of Georgia will rank among the best dividend-producers in the world."

The department of geology has just issued a statement of the mineral output of the State for 1900, as follows: Iron, 236,748 tons, \$235,343; ocher, 3,212 tons, \$39,505; manganese, 3,089 tons, \$25,377; bauxite, 7,507 tons; asbestos, 650 tons, \$10,500; coal, 233,000 tons, \$233,344; clays, \$834,908 (manufactured); cement, \$13,500; slate, \$7,500; granite, \$411,344.

During the past year the production of coal and iron moved forward faster than any other minerals.

Agriculture.—The year witnessed rapid strides in the southern counties in nearly every branch of agriculture. In the past, the pine country has been satisfied with the production of naval stores and lumber; but its people have begun to see that the pine forests can not last forever, and they are turning to the cultivation of the land. In this section the soil is richer than anywhere else in the State, and sugar-cane and tobacco are being raised with every evidence of success. The Commissioner of Agriculture reports the products of the State for 1901 as follow: Corn, 34,119,530 bushels, \$19,448,132; wheat, 5,011,133 bushels, \$4,760,567; oats, 7,010,040 bushels, \$3,434,920; rye, 109,525 bushels, \$112,815; Irish potatoes, 391,816 bushels, \$301,698; hay, 190,237 tons, \$2,425,522; cotton, 1,345,699 bales, \$48,024,822; by-products of cotton, \$14,000,000; rice, 7,500,000 pounds, \$375,000.

Tobacco never has been a staple crop in Georgia, and only in the last year has any attempt been made to raise it for market. The latest report on tobacco shows an area of 800 acres devoted to it, on which was produced 263,752 pounds last season.

The truck-farming business has taken rapid strides, and the truck farms in the five largest counties are valued as follow: Chatham, \$225,000; Richmond, \$85,000; Bibb, \$35,000; Muscogee, \$30,000; and Fulton, \$150,000.

The peach industry has grown greatly in the past year, and it is estimated that since 1900 about 2,000,000 young trees have been planted, which, with those put out in 1899 and 1898, will give Georgia by 1904 more than 8,500,000 bearing peach-trees. In 1901 the number of car-loads of peaches from all Georgia shipping-points was 2,500, of which 1,400 came from one small section of the State. The next largest fruit-crop is apples. A pecan grove of over 1,000 trees is now bearing in Dougherty County. Smaller groves have been planted in Spalding and Hancock Counties. The innovation is meeting with great success.

R. J. Redding, director of the Georgia Agricultural Experiment Station, in his report for the past year, says: "I know of no soils that respond so promptly and gracefully to fertilizers as the soils of Georgia. During each of the last three years yields of 25 to 40 bushels of wheat to the acre have not been unusual. The same soils would

produce 75 to 100 bushels of oats, or $1\frac{1}{2}$ bale of cotton, or 50 bushels of corn."

Manufactures.—The year 1901 served to put Georgia in the front rank in manufactures in the Southern States. In the construction and operation of cotton factories and cottonseed-oil mills since 1898, and particularly during the past twelve months, Georgia leads. The rapid construction of cotton factories has in fact been so rapid as to cause a setback to this industry. It is a fact not generally known that the trade which the Georgia cotton factories, in competition with Eastern factories, had built up was the trade with China and the Orient, and the recent troubles in China practically put an end to trade relations for the time being, and the Georgia factories were forced to seek other markets.

A table based on that of the Census Bureau shows the following manufacturing totals for 1901: Number of establishments, 7,504; capital, \$8,789,656; wage-earners, average number, 83,842; total wages, \$20,344,071; miscellaneous expenses, \$5,321,330; cost of materials used, \$53,232,203; value of products, including custom work and repairing, \$106,648,677.

The latest statistics show that the cotton factories of the State already built and in operation number 75. Their total value is placed at \$20,689,000. The number of spindles in operation is estimated at 927,346, and the number of looms at 26,645. In September, 1901, there were 52 active cottonseed-oil mills in the State, with an approximate capital of \$2,500,000. These mills paid last year \$5,000,000 for cottonseed alone, and the value of their products was approximately \$14,000,000. Seven new mills are in process of construction.

The lumber, tar, and turpentine business has brought into Savannah and Brunswick a vast quantity of material for shipment, and has made the former city the largest lumber and naval-stores market in the world.

The pig-iron industry in Georgia, which remained dormant from 1890 to 1895, has suddenly moved forward again, and several large plants are being constructed in the northern part of the State. Georgia consumes more chemical fertilizers than any other State in the Union. In 1901 there were 112 fertilizer plants in operation in the State. The consumption of fertilizers in 1901 amounted to 478,000 tons.

The last Legislature amended the fertilizer laws and placed rigid restrictions around the sale of the article.

Confederate Soldiers' Home.—The home for indigent and helpless Confederate veterans, which was built through the influence of Henry W. Grady a few years before his death, was finally opened for the veterans on July 1, 1901. On Sept. 30, 1901, the institution was destroyed by fire, and the same day a temporary home was rented in Atlanta, and the veterans still live there, waiting for their home to be rebuilt. In addition to the insurance secured on the building, the people of the State added liberally by popular subscription, and enough money is now on hand to build a finer home than the original one.

IDAHO, a Northwestern State, admitted to the Union July 3, 1890; area, 84,000 square miles; population in 1890, 84,385; in 1900, 161,772. Capital, Boise City.

Government.—The following were the State officers during the year: Governor, Frank W. Hunt; Lieutenant-Governor, Thomas F. Terrell; Secretary of State, Charles J. Bassett; Auditor, Egbert W. Jones; Treasurer, John J. Plumer; Attorney-General, Frank Martin; Adjutant-General, J. L. Weaver; Superintendent of Public In-

struction, Permeal French; Mine Inspector, Martin H. Jacobs; State Engineer, D. W. Ross; Chief Justice of the Supreme Court, Ralph P. Quarles; Associate Justices, I. N. Sullivan and Charles O. Stockslager; Clerk, Solomon Hasbrouck.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years. Sessions are not limited, but members draw pay for only sixty days.

Finances.—The report of the Treasurer shows that at the beginning of 1901 the State was in

a strong financial condition. County delinquencies have been corrected, and as a result of the law requiring counties to remit promptly, the amount of outstanding warrants has been greatly reduced. The amount of these, Jan. 1, 1899, was \$204,649.64, and Jan. 1, 1901, it was \$95,499.45. The interest paid on general fund warrants, which in 1895 amounted to \$20,737, had been reduced to \$4,261 in 1900. Of the outstanding bonds, the State held, Jan. 1, 1901, \$73,000, and on \$340,500 it was paying interest. The general fund receipts for 1899 and 1900 were \$613,507.26, and the disbursements \$613,376.29, leaving a balance Jan. 1, 1901, of \$130.97. The sale of \$205,000 of State bonds in June was made to a single bidder, and brought \$10,865 premium. The bonds carry interest at the rate of 4 per cent., but the premium reduces this to 3%.

Valuation.—The State Auditor's computation of the assessed valuation by counties as equalized in 1901, exclusive of railroads, telegraphs, and telephones, presents a total of \$52,195,486.39, against \$47,545,905.82 in 1900. The amount of State taxes levied for 1901 was \$245,000. According to the State Auditor, the assessment for mines and mining improvements for 1899 was \$1,482,679; for 1900, \$1,533,406. The railroads of Idaho were assessed in 1901 \$9,032,260, against \$8,893,415 in 1900. There are now more than 1,300 miles of railroad in the State. Special levies upon the counties for wagon-road funds in 1901 raised the total revenues of the State from \$245,000 to \$270,715.38.

Education.—The State University has had another year of growth and prosperity. At its sixth commencement in June 24 degrees were conferred upon graduates—16 in the department of arts and letters, 2 in agriculture and horticulture, 2 in civil engineering, 3 in mining engineering, and 1 in music. A girls' dormitory and an engineering building were added in the year. Under a law passed by the last Legislature, reducing the number of regents of the university from 9 to 5, the Governor appointed a new board in March.

The State Normal School, at Lewiston, is also rapidly growing in equipment and attendance. New buildings and new departments were added in 1901.



FRANK W. HUNT,
GOVERNOR OF IDAHO.

Idaho makes provision for the care and education of a considerable number of deaf, dumb, and blind children at institutions in neighboring States. The State Superintendent of Public Instruction reports gratifying results for the year from this arrangement.

Blackfoot Asylum.—In January the directors of the Asylum for the Insane, at Blackfoot, made their report for 1899 and 1900. During the latter year the smallest number of patients at any one time was 189, and the largest 213. The report says that the asylum made a fine display at the State fair at Boise City in 1900.

Penitentiary.—The number of prisoners in the Penitentiary Aug. 1, 1901, was 124. In July 6 were discharged, paroled, or pardoned, and 5 were received.

Martial Law.—May 4, 1899, Shoshone County was declared under martial law, and order and prosperity ensued. April 11, 1901, Gov. Hunt issued a proclamation abolishing martial law and restoring civil government. April 14, at Mullan, in the same county, two deputy sheriffs were shot at from ambush in the night, and one of them was wounded three times. One of the assailants was killed by the officers.

Legislative Session.—The session of the Legislature began Jan. 7 and ended March 12. Its membership consisted of 43 Fusionists and 27 Republicans. One of its early acts was the election of F. T. Dubois, Silver Republican, to succeed G. L. Shoup, Republican, as United States Senator. The number of bills passed was 115; resolutions and memorials, 11. Among the bills approved by the Governor were the following:

Making the judiciary committees of both houses a joint body to consider the codes.

Providing for the rebuilding and equipment of the Soldiers' Home.

Creating a free traveling library and a library commission to establish free public and public-school libraries throughout the State.

Providing for the care and preservation of flags belonging to the State.

Establishing at Pocatello the Academy of Idaho.

Authorizing a \$13,000 bond issue for improvements at Albion Normal School.

Prohibiting non-resident insurance agents from writing policies in Idaho.

Creating an arbitration commission to act in adjusting disputes between employers and employees.

Creating the office of insurance commissioner, and providing for taxation of insurance companies.

Creating Clearwater County.

Appropriating \$15,000 for an exhibit at the Pan-American Congress and providing for a Pan-American commissioner.

Providing for a bond issue of \$50,000 for a girls' dormitory and a hall of science at the State University.

Refunding the bonded indebtedness incurred by the State at its admission to the Union.

Providing for the codification and publication of the laws of Idaho.

Providing for the incorporation and regulation of trust, guarantee title, abstract, and safety-deposit companies.

Making the killing of live stock by a railroad *prima facie* evidence of negligence on the part of the railroad company.

Submitting a constitutional amendment for an eight-hour law.

Authorizing the issue of \$117,000 of bonds to pay deficiencies incurred from 1895 to 1900.

Appropriating \$5,000 for the mining congress.

The total amount of appropriations made and bonds authorized by the Legislature was \$940,714.50.

Irrigation.—At the beginning of 1901 Idaho had 535,000 acres of irrigated land under cultivation, being about the same amount that was cultivated without irrigation, and more than 2,500 miles of large canals, costing over \$1,600,000. The increase of irrigation from 1889 to 1899, shown by the Federal census, was 132 per cent. There were 13 canals owned by corporations selling water to the farmers, under which 82,000 acres were irrigated, while the number of acres irrigated under farmers' canals was 453,000. The great increase since 1899 has been under canals owned by the users of the water. In the upper Snake valley, where the canals are mainly owned by the farmers, settlement has been much more rapid than in any other part of the State.

Productions.—According to the estimate of the United States Director of the Mint, the production of gold in Idaho in 1900 was valued at \$2,067,173, against \$1,550,958 in 1899. The silver yield was 4,500,000 fine ounces. Adding lead and copper, the total value of the State's mineral production was about \$14,000,000. Great importance is attached to the developments of the year in the Snake river gold region, and those of the Thunder mountain section created an unusual excitement. Lively interest has also been awakened in the oil and gas discoveries of 1901 in various localities along the Snake.

Sheep-raising is an industry of growing importance. Expert investigation in the interest of the National Sheep-Growers' Association, early in 1901, found the conditions in different parts of the State highly satisfactory. The number of sheep summered in 1900 in the 10 southernmost counties was found to have been more than 3,000,000.

The Idaho commissioner at the Pan-American Exposition reported in July: "The mining exhibit from Idaho attracts the attention of a certain class, the forestry exhibit of another, the agricultural exhibit of another, but the horticultural attracts the attention of all. It is the best exhibit in that line at the exposition." It was a matter of general surprise to visitors to learn that Idaho raised fruit at all.

Land Survey.—The following statement is based on the official report of the United States Surveyor-General for Idaho for the fiscal year ending June 30, 1901: The area of the State has generally been given in official reports as 55,228,160 acres, but from recent surveys it appears that it is 53,883,648 acres, of which the accepted surveys are 19,077,729 acres, leaving unsurveyed 34,805,919 acres. There was appropriated for agricultural surveys for the fiscal year \$39,400, and there were during the year surveyed 50 full and fractional townships, embracing 818,435.24 acres. The report of the Receiver of the United States Land-Office for the same period shows that in the Boise land district, embracing nearly 13,000,000 acres, there are over 11,500,000 acres still unappropriated. This area includes almost every known kind of land.

Hydrographic Surveys.—Surveys to determine the amount of water-supply are being conducted under an agreement entered into by the State Engineer with the director of the United States Geological Survey, by the terms of which the hydrographic surveys in this State are to proceed under the appropriation of \$1,200 made by the last Legislature, which sum has been duplicated by the General Government.

ILLINOIS, a Western State, admitted to the Union Dec. 3, 1818; area, 56,650 square miles. The population, according to each decennial census, was 55,162 in 1820; 157,445 in 1830; 476,183 in 1840; 851,470 in 1850; 1,711,951 in 1860; 2,539,891 in 1870; 3,077,871 in 1880; 3,826,351 in 1890; and 4,821,550 in 1900. Capital, Springfield.

Government.—The following were the State officers during the year: Governor, Richard Yates; Lieutenant-Governor, William A. Northcott; Secretary of State, James A. Rose; Auditor, James S. McCullough; Treasurer, M. O. Williamson; Attorney-General, H. J. Hamlin; Superintendent of Public Instruction, Alfred Bayliss; Adjutant-General, Gen. J. M. Reece; Superintendent of Insurance, Henry Yates; Justices of the Supreme Court, Carroll C. Boggs, James B. Ricks, Jacob C. Wilkins, Joseph N. Carter, John P. Hand, James H. Cartwright, Benjamin D. Magruder.

The Governor, Lieutenant-Governor, Secretary of State, Auditor of Public Accounts, and Attorney-General are elected in November of presidential years and hold office four years. The State Treasurer is elected biennially, in November of even-numbered years, and may not serve two terms in succession. The State Superintendent of Public Instruction is elected for four years in November of even-numbered years other than "presidential years." The Legislature meets biennially in January of odd-numbered years. The length of the session is unlimited.

Valuations.—The total assessment of the counties for 1901, as given by the Auditor, was \$891,256,228, against \$779,512,078 for 1900. The Board of Equalization had not completed its report at the end of the year. The delay was caused by a suit for mandamus to compel the board to assess the capital stock and franchise values of 23 Cook County corporations. The board added \$172,000,000 to the valuations of 1900, and in round numbers \$86,000,000 to the assessments for 1901.

Banks.—The following figures were given in the report of the State Auditor as to the condition of 151 State banks that were doing business for the twelve months ending June 30, 1901: Capital, July 1, 1900, \$18,237,000; surplus, \$7,142,301; undivided profits, \$5,434,020; total investments, consisting of loans, bonds, stocks, and realty, \$160,755,094; total investments, consisting of part of reserve due from banks, \$39,464,173; gross earnings for the twelve months, \$9,976,210; net earnings for twelve months, \$2,895,611. Of the above 151 banks, 134 report dividends having been paid during the twelve months amounting to \$1,712,169.43. The percentage of dividend per capital, surplus, and undivided profits was 5.7, and the percentage of dividend per capita was 9.8.

In October, 1901, the Auditor's statement showed the total resources and liabilities of the 167 State banks as \$262,421,036. This report included the following items: Resources—loans and discounts, \$143,058,409; United States bonds, including premiums, \$323,424; other bonds, including premiums, \$40,995,820; other real estate, \$1,421,472; gold coin, \$6,885,191; gold certificates, \$10,362,272; silver coin, \$347,309; silver certificates, \$1,385,905; national bank currency, \$6,366,865; legal-tender and Treasury notes, \$2,581,905. Liabilities—capital stock, \$20,900,000; surplus fund, \$9,768,233.

Charities.—The report of the State charitable institutions for the quarter ending Sept. 30, 1901, shows the following figures: The number of inmates present Sept. 30 was 10,445. The average

number during the quarter was 9,712. The per capita cost of maintenance was \$40.52. Deducting outside receipts, the cost to the State was \$36.20. A comparison of the liabilities and available resources of the institutions shows that the surplus for all, Sept. 30, was \$137,219.74.

The number of inmates present in the Northern Insane Hospital at the end of the quarter was 1,158, of whom 523 were males and 685 females. The other 4 asylums for the insane report as follows: Eastern, Kankakee, 1,112 males, 1,029 females; Central, Jacksonville, 640 males, 623 females; Southern, Anna, 567 males, 503 females; Western, Watertown, 335 males, 300 females.

The Illinois Soldiers' and Sailors' Home, at Quincy, had enrolled 1,563 inmates. The average cost of maintenance for the quarter was \$29.91. The total cost to the State was \$42,034. Surplus of cash on hand and cash due, \$26,371.

The Illinois Asylum for Feeble-Minded Children, at Lincoln, had 987 inmates—533 males and 454 females. The average daily attendance for the quarter was 957. The average per capita cost of maintenance was \$36.93. The total cost to the State for the quarter was \$31,850.63 for ordinary expenses, \$13,388 for special expenses. The accounts show a surplus of \$18,062.

The Institution for the Deaf and Dumb, at Jacksonville, had present Sept. 30, 1901, 527 inmates—310 males and 217 females. The actual cost of maintenance for this period was \$16,626, or \$31.85 per capita.

The Soldiers' Widows' Home, at Wilmington, provided for 48 inmates during the quarter, at a cost to the State of \$2,223, or an average of \$51.28.

The Soldiers' Orphans' Home, at Normal, had 217 males and 172 females.

Education.—The public-school statistics for the year ending June 30, 1901, reported by Alfred Bayliss, Superintendent of Public Instruction, give these items: Number of children between the ages of six and twenty-one—males, 808,330; females, 787,515; total, 1,595,845. This number is somewhat too small from the fact that the school census has not been taken in Chicago since the spring of 1900. Number of pupils enrolled in schools—males, 485,350; females, 478,284; total, 963,634, an increase of 4,723 during the year. Average daily attendance, 756,558, an increase of 18,802. Average number of days the public schools were kept, 159.6. Number of buildings used for schoolhouses, 12,852. Number of schoolhouses built during the year, 176. Number of pupils enrolled in public high schools, 40,639, an increase of 1,881. Number of pupils enrolled in private and parochial schools, 142,076, a decrease of 420. Number of different teachers employed in public schools—men, 6,897; women, 19,632; total, 26,529, an increase of 216. Average monthly salaries of teachers, \$55.22—men, \$61.69; women, \$53.51. The total expenditures were \$19,601,994.69, an increase of \$1,274,873.57.

Insurance.—The statement of the Insurance Superintendent for 1900, issued in February, 1901, contains the following figures: The companies doing a general fire, marine, and inland navigation insurance business in this State may be classified as follows: Illinois joint-stock fire and marine companies, 6; mutual fire and insurance companies, 9; joint-stock fire and marine companies of other States, 121; foreign fire and marine companies, 50; mutual fire insurance companies of other States, 12; total, 198. This shows a net loss of 5 companies as compared with the number authorized to transact business in this State at the date of the last report.

The aggregate capital stock and deposit capital of the stock and foreign companies doing business in this State at this date is \$850,000 less than the aggregate capital at the previous report. The table also shows an increase in assets of these companies of \$5,971,991, an increase in surplus of \$1,789,772, and of risks written of \$167,662,857. The net excess of receipts over disbursements for 1900 was \$6,321,327. The risks in force at the end of the year 1900, compared with 1899, show an increase of \$1,378,907,603.

The year was one of marked prosperity in life insurance, the business written exceeding that of the previous year by 8,598 policies and \$9,756,031, exclusive of industrial business. The net increase of insurance in force on new insurance written was 44 per cent., as against 57 per cent. in 1899. The total premiums received amounted to \$16,380,708, and the total losses paid were \$5,411,966. The entire industrial business written shows an increase of 212,484 policies and \$41,150,103 of insurance. The total business of all life insurance companies shows an increase in income of \$36,061,849, an increase in expenditures of \$18,483,765, an increase in assets of \$154,736,811, in liabilities of \$136,411,960, and an increase in surplus of \$18,324,851.

The 41 companies in the State doing the business of fidelity, surety, and casualty insurance show the following aggregate results: Capital, \$18,836,400; admitted assets, \$116,732,804; liabilities, \$97,706,569; net surplus, \$19,026,234; risks in force, \$4,870,025,910.

There were at the date of this report 25 assessment life and 6 assessment accident companies doing business in the State, with total admitted assets as follows: Life, \$18,378,807; accident, \$203,298. One hundred fraternal beneficiary societies doing business in Illinois show total admitted assets of \$17,865,584.

Building and Loan Associations.—The 572 associations doing business in 1900 show total assets of \$47,896,148, as compared with 599 associations in 1899 with \$54,104,602 assets.

Railroads.—From the report of the Railroad and Warehouse Commission for the year ending June 30, 1900, it appears that the total mileage of steam railroads in the State is 16,806.28 miles, an increase over 1899 of 388.41 miles. The mileage of elevated and surface electric lines is 149.68, an increase over the previous year of 52.62 miles.

The total capital of all steam railroads in Illinois at the close of the fiscal year ending June 30, 1900, was \$3,068,699,029. This is an increase of \$141,323,872, a very remarkable showing. The increase in capital of the elevated and surface electric lines was \$7,140,448. The total amount of taxes paid by the steam railroads for the year was \$4,379,611, which is a decrease from the taxes paid in 1899 of \$254,158. There was a large increase in the wages paid to employees.

The number of passengers carried by the roads reporting was 42,153,557, and the passenger earnings per mile were \$2,194. The total amount of freight handled was 83,667,441 tons. On all lines of roads reporting to the Illinois commission, the entire number of persons employed for the year 1900 was 327,163, to whom was paid in salaries a total amount of \$187,050,638, an increase over the previous year of \$22,078,495.

Mining.—From the coal-mining statistics for 1901 it appears that the number of counties in Illinois producing coal is 52. The output of all mines for 1900 was 25,153,929 tons, of which 21,009,803 tons were shipped. The number of shipping mines is 323, and average days of active operation 214. The number of employees is 39,

384, of whom 35,203 were underground. The price paid per ton for hand mining was 49.3 cents, an increase of 2 cents over the previous year. The average value of lump coal has also increased from 91 cents to \$1.09.

Food Commission.—This commission was created in 1899, penalties to go into effect on and after July 1, 1900. The duties of the commissioner, his assistant, and 6 inspectors are to enforce the laws in regard to the purity of foods by analyzing samples and prosecuting manufacturers or dealers found guilty of any violations of the law. The report for 1901 shows a total of 980 food samples analyzed. In the year 132 prosecutions were instituted, of which 53 were for fraudulent sale of oleomargarin.

Militia.—The militia consists of 7 regiments of infantry, 3 battalions of colored infantry, 1 regiment of cavalry, 3 batteries of artillery, 1 engineer company, 1 signal corps, and 1 hospital corps.

Arbitration.—The subject of arbitration of industrial disputes in 1901 received the marked attention of both employees and capitalists, and the advance made in the direction of perfecting the arbitration laws of the State have met with the approval of all persons interested in the subject. Prior to 1901 the arbitration laws of the State were lacking in one essential particular, which has been corrected by the last Legislature. This defect was the lack of jurisdiction of the State Board of Arbitration when disputes arose in labor circles which involved the public, and in which quasi-public corporations were the employers and parties to the strike or lockout; when, for instance, the means of communicating, or the questions of food, fuel, or light were involved in the strike, the inconvenience of the strike was very serious, and yet the State board had not the means at hand of making an investigation into it. The present board secured the passage of an amendment to the arbitration laws, which is embodied in the following paragraph:

"Whenever there shall exist a strike or lockout wherein, in the judgment of a majority of said board, the general public shall appear likely to suffer injury or inconvenience with respect to food, fuel, or light, or the means of communication or transportation, or in any other respect, and neither party to such strike or lockout shall consent to submit the matter or matters in controversy to the State Board of Arbitration, in conformity with this act, then the said board, after first having made due effort to effect a settlement thereof by conciliatory means, and such effort having failed, may proceed of its own motion to make an investigation of all facts bearing upon such strike or lockout and make public its findings, with such recommendations to the parties involved as in its judgment will contribute to a fair and equitable settlement of the differences which constitute the cause of the strike or lockout; and in the prosecution of such inquiry the board shall have power to issue subpoenas and compel the attendance and testimony of witnesses, as in other cases."

While this law does not give the board the right to compel the parties to the dispute to arbitrate, it nevertheless gives it the power to investigate, and makes it their duty to report to the public the results of such investigations.

The year 1901 witnessed fewer strikes in Illinois than any of its predecessors for several years. Undoubtedly the prevailing prosperity has tended to increase the wages of employees, and thus promote peace among the various workers. The adoption by the vast army of coal-miners through-

out the State of an arbitration plan of their own, very much like the methods employed by the State board to produce harmony between themselves and their employers, has had much to do with the tendency toward peace in the industrial ranks. The most important cases investigated by the State board in 1901 were the East St. Louis Building Trades case, the Saline County coal case, and the Chicago Heights case, in all of which thorough investigations were made by the board, and recommendations made which were acceptable to both sides.

Legislative Session.—The General Assembly convened at Springfield on Jan. 9, 1901, and was presided over by Lawrence Y. Sherman, Speaker. On Jan. 23 United States Senator Shelby M. Cullom was reelected. Many important measures were presented to the Assembly, but the legislation consisted chiefly of enacting appropriation bills. The Assembly adjourned *sine die* May 4, 1901. Among the more important laws of the session were the following:

The garnishment law was amended so as to exempt \$15 a week of the wages of heads of families.

The State Board of Arbitration received authority to inquire on its own motion into labor disputes that directly affect the public.

Kidnaping for the purpose of extorting money was made a capital crime, punishable by death.

Juvenile courts received jurisdiction of delinquent or uncared-for children under the age of eight years, with power to designate homes and hospitals for them. Provision made for a State home for delinquent boys, at a cost of \$35,000.

The addition of two colored battalions to the National Guard was authorized.

The city election law was amended by requiring lodging-house keepers to file lists of lodgers, etc., four weeks prior to elections.

The primary election law was amended by limiting the number of voters in each precinct to 800, and keeping the polls open from noon to 7 P. M.

Corporation authorities and park commissioners were empowered to raise funds and condemn land for small parks or pleasure-grounds.

The sum of \$250,000 was voted for the State's representation in the Louisiana-Purchase Exposition to be held in St. Louis.

The aggregate of all taxes in any district or municipality was limited to 5 per cent. of the assessed valuation of property.

Corporations were required to make annual reports to the Secretary of State.

The sale of liquor near national homes for disabled soldiers was prohibited.

Hazing was made a misdemeanor; penalty, \$500 or six months' imprisonment.

Factory owners were forbidden to employ persons under sixteen years of age more than ten hours a day, and required to furnish seats for women and girls.

INDIANA, a Western State, admitted to the Union Dec. 11, 1816; area, 36,350 square miles. The population, according to each decennial census since admission, was 147,178 in 1820; 343,031 in 1830; 685,866 in 1840; 988,416 in 1850; 1,350,428 in 1860; 1,680,637 in 1870; 1,978,301 in 1880; 2,192,404 in 1890; and 2,516,462 in 1900. Capital, Indianapolis.

Government.—The following were the State officers in 1901: Governor, Winfield T. Durbin; Lieutenant-Governor, Newton W. Gilbert; Secretary of State, Union B. Hunt; Auditor, William H. Hart; Treasurer, Leopold Levy; Attorney-General, William L. Taylor; Superintendent of

Public Instruction, Frank L. Jones; Statistician, Benjamin F. Johnson; Adjutant-General, James K. Gore, succeeded in April by John R. Ward; Geologist, Willis S. Blatchley; Commissioner of Insurance, Cyrus W. Neal; Commissioner of Public Lands, L. G. Rothschild; Tax Commissioners, J. C. Wingate, Parks M. Martin; Supervisor of Natural Gas, J. C. Leach; Secretary of the Board of Forestry, W. H. Freeman; President Board of Health, J. H. Forrest; Factory Inspector, D. F. McAbee; Fish and Game Commissioner, Z. T. McSweeney; Secretary of the Board of Charities, Amos W. Butler; Chief Justice of the Supreme Court, John V. Hadley; Associate Justices, James H. Jordan, Alexander Dowling, Leander J. Marks, Francis E. Baker; Clerk, Robert A. Brown. All State officials are Republicans.

A Governor is elected once in four years, at the time of the presidential election. Other State officers are elected for two years in the even-numbered years. The Legislature meets biennially, in January of the odd-numbered years, and consists of 50 Senators and 100 Representatives.

According to the census the State has 843,885 persons of school age, 833,697 of them native born and 10,188 foreign born. There were 425,666 males of school age; 411,353 white natives, 5,252 foreign whites, and 9,060 colored, of whom 9,011 were negroes. Of the 418,219 females of school age, 408,788 were white and 9,431 were colored. Of militia age, eighteen to forty-four years, Indiana had 530,615, of whom 516,250 were white and 14,365 colored. There were 720,206 voters in the State, 646,889 native born; 701,761 white, 18,445 colored, of whom 18,186 were negroes. The foreign-born voters numbered 73,317, of whom 73,087 were white.

Finances.—The Auditor's report for the year ending Oct. 31 shows that there was at the end of the year a balance in the treasury of \$611,649.98, which was greater by \$239,582.06 than the balance Oct. 31, 1900. During the last fiscal year the school revenue for tuition amounted to \$2,060,377.02; the receipts of the benevolent institution fund were \$660,145.80; of the State debt sinking-fund, \$396,043.29.

The disbursements for the year were \$5,541,832.86, of which \$2,055,568.20 was from the school revenue fund, \$660,109.42 from the benevolent institution fund, and \$219,717.07 from the educational institution fund.

In July the Auditor took up \$300,000 of the State's bonds, which could have run till 1909, but contained a provision giving the State an option on redeeming them before they were due.

A part of the State debt, amounting to \$1,085,000, can not be paid off until April 1, 1915, because the bonds representing that amount contain no option. There are bonds belonging to the Purdue University endowment fund amounting to \$340,000 that run perpetually, and the State



WINFIELD T. DURBIN,
GOVERNOR OF INDIANA.

University at Bloomington holds bonds of the State amounting to \$144,000 that can not be paid off until 1937. The remainder of the bonded debt that remains to be discharged is in the form of bonds that pay 3 per cent. interest annually.

The total of the State debt in January was \$4,504,615.12.

The new law for foreign corporations is a source of increased income to the treasury.

Valuations.—The Legislature added to the kinds of property to be assessed by the State Board of Tax Commissioners street-railway properties, pipe-lines running through more than one county, and fast freight and transportation companies. The assessments show a great increase in the valuations of various classes of property. The railroad property in the State is increased from \$154,275,131 to \$156,973,151. Telephone property is nearly double its previous assessment, being \$4,436,663 in 1901 against \$2,929,190 in 1900. Electric roads are valued at \$7,746,452; sleeping-car companies, \$869,580; telegraph companies, \$2,514,812; express companies, \$1,811,736; pipe-line companies, \$8,879,027.

Education.—The Superintendent of Public Instruction says: "The most remarkable development in Indiana's school system during the last ten years has been its high schools. There are within the State 717 *bona fide* high schools in which instruction is given during periods of two, three, or four years."

Of the operation of the transfer law he says: "No other force has had such an immediate and such a harmful effect upon the high-school spirit. The new law requires a transfer of school funds to accompany the transfer of children. This exodus of school funds, though not great, in most communities has caused trustees to build and equip high schools to avoid the transfer of the funds, though the additional expenditures for buildings and the small attendance do not justify such a policy."

The State Normal School, at Terre Haute, graduated 50 students in June and 26 at the close of the summer term in August.

The annual attendance at the State University, at Bloomington, is given as 1,157, and the whole number of graduates it has sent out as 2,200. About 140 were graduated in June. A new science hall is to be finished in June, 1902.

Wabash College graduated 16; the Indiana Law School, 43; Butler College, 9. De Pauw College received gifts amounting to \$146,500. By the will of Henry C. Long, his estate of \$750,000 is to be used, after the death of his widow and two children, to found a girls' college in Indianapolis.

At Purdue University the registration was more than 1,000. A new agricultural building is in process of erection.

The June apportionment of State school funds disposed of \$1,147,246.22, on a basis of 756,616 school population.

The superintendent appointed Nov. 22 as Harrison day, to be observed by the schools, with exercises commemorating the patriotic services of Benjamin Harrison. The teachers were directed to receive contributions for the memorial fund to be used for a monument to the ex-President. The amount from a pupil was limited to 5 cents, and from a teacher to 10 cents. School statistics for 1900 show an enumeration of school-children, 756,004; teachers, 15,617, of whom 7,208 were men; average daily wages of men in townships, \$2.11; and of women, \$1.94.

Charities and Corrections.—The population of Indiana's penal and correctional institutions

has remained almost stationary in the past six years. The figures six years ago were 2,118, and for last year 2,185. While it is true of the total number in all the institutions the number in the institutions severally have varied somewhat. The number of persons actually in each of the State's 13 institutions on April 30, 1901, was as follows:

Central Hospital for Insane, 1,675; Northern Hospital for Insane, 787; Eastern Hospital for Insane, 622; Southern Hospital for Insane, 680; Soldiers' Home, 434; Soldiers' and Sailors' Orphans' Home, 626; Institution for Deaf, 309; Institution for Blind, 130; School for Feeble-Minded Youth, 744; State Prison, 878; Indiana Reformatory, 909; Industrial School for Girls, 163; Woman's Prison, 46; Reform School for Boys, 579. The total cost for the six months was \$747,201.03. The earnings of the institutions were \$61,770.66, making the net cost \$833,367.21.

A new cell-house was finished this year at the Jeffersonville Reformatory at a cost of \$250,000. It contains 600 cells in 5 stories or tiers, and is arranged most conveniently with plumbing, heating, and ventilation as perfect as possible.

The workings of the indeterminate sentence and parole law are summarized as follow:

"During the four years ending April 1, 1901, both prisons had paroled 1,141 men—the Reformatory 833 and the State Prison 308. Of this number 135 have been returned to the Reformatory and 21 to the State Prison for violation of parole. The number of unsatisfactory cases has been 147 paroled from the Reformatory and 35 from the State Prison. The earnings of paroled men during the four years have amounted to \$184,083.87. The men who have gained their final discharges from parole have had on hand or due them \$36,928.43.

"One of the most valuable features of the Indiana law is that it provides an agent whose duty it is to secure homes and employment for paroled men."

Banks.—The state of the national banks July 15, 1901, was: Loans and discounts, \$50,000,000; individual deposits, \$65,000,000; bank deposits, \$12,000,000. The trust companies had deposits of \$1,400,000; United States deposits, \$2,900,000; aggregate resources, \$110,400,000. The State banks had loans and discounts of \$15,200,000; individual deposits, \$20,000,000; aggregate resources, \$25,700,000.

Insurance.—From a summary of facts from the Insurance Commissioner's report given in October are taken the following items: Insurance is written in Indiana by 113 fire companies, of which 6 are native to the State, 73 have their official residence in other States, and 34 have their home offices across the ocean. Five companies were admitted during the year, 2 consolidated with other companies, and 10 reinsured their business.

Dec. 31, 1900, the life, accident, and fraternal associations had in force in Indiana 110,667 policies of insurance, calling for a total of \$148,676,448.10.

There are 43 life companies which maintain the legal reserve for protection of policy-holders. Of these, 5 are Indiana companies and 38 belong to other States.

Twenty-eight companies are engaged in writing miscellaneous insurance. Of these, 25 belong to other States and 3 are organized under Indiana laws.

Eighteen assessment life and accident companies report to the Auditor, and 12 of such companies belong to other States.

The fraternal associations of Indiana had in force in this State, on Dec. 31, 1900, 28,279 policies, covering \$38,112,650 of insurance, while fraternal associations of other States had in force in this State, at the same time, 59,709 policies, covering \$88,042,383 of insurance.

Loan Associations.—In the State, not including Marion County, 143 associations show an increase in business, and an equal number a decrease. In Indianapolis 32 associations reported an increase, while 48 show a decrease. Ten associations retired from business in the State and 12 began business. Five went into liquidation, 4 of which are in Indianapolis. The associations, as a rule, maintained a good business, the assets compared with 1900 showing a decrease of about \$400,000, while the membership showed an increase of about 9,000.

Loans on mortgage securities have diminished about \$300,000, and on stock security increased about an equal amount.

Saloons.—The State statistician reports that Dec. 31, 1900, there were 4,392 saloon licenses in vogue in Indiana, one for every 573 persons. Fifty-nine of 80 cities in the State that have reported have 2,643 saloons against 2,188 in 1897. The licenses amounted to 63 cents for each person.

Lawlessness.—On Feb. 26 a negro was hanged at Terre Haute by a mob, for the murder, which he confessed, of a young woman, who, as he said, had called him "a dirty nigger" and struck him in the face. His body was burned.

Requisition from Kentucky.—Requisition was made on the Governor by the Governor of Kentucky for the return to that State of ex-Gov. William S. Taylor and ex-Secretary of State Charles S. Finley, to be tried for complicity in the assassination of Gov. Goebel. The requisition was refused in a communication from which the following extracts are taken: "I choose to make use of the right and the duty as the executive of the commonwealth to exercise a discretionary power of refusal, to the end that the purposes of persecution, which seems to be the conspicuous feature of this prosecution, may not force these men before a court partizan to the very extreme of vindictiveness and a jury organized for conviction in its *personnel* and impanelment. I have given careful and conscientious consideration to the evidence produced in the case already heard of the persons accused of complicity in the murder of William Goebel so far as has been placed in my hands by the attorneys for the prosecution, and I unhesitatingly affirm that conviction based upon such a mass of self-evident perjury reflects the poisoned passions of a court and jury and strengthens the belief that were these requisitions honored I would be only aiding the determination of the prosecution to convict these men without any reference to law, justice, or fact."

Monument to Mrs. Lincoln.—About 1897 the attention of Gov. Mount was called to the neglected condition of the grave of Abraham Lincoln's mother, in Spencer County. Through his efforts a fund was raised, and the burial-place was enclosed and cared for. Later, the Culver Company offered to give a monument, which offer was accepted, and in April the company announced that the monument was ready. The foundation was to be built of material from the old vault where Mr. Lincoln was buried at Springfield.

Legislative Session.—The General Assembly was in session from Jan. 10 to March 11. Senator Wood was president *pro tem.* of the Senate, and Samuel R. Artman was Speaker of the House.

The new offices, boards, and commissions that

were created were those of an additional judge of the appellate court; a State mine-inspector; a State veterinarian, the veterinary board being abolished by the same act; a State board of embalmers; a State board of forestry, of 5 members, 1 to be the secretary; a Shiloh battle-field commission, with appropriation of \$25,000, all but \$4,000 of which is to be used in paying for monuments to mark the positions of the Indiana troops on the battle-field of Shiloh. The \$4,000 remaining is to be used to pay the expenses of the members of the commission, which is to have two years for its work.

A new primary election law was enacted, and the use of voting-machines was provided for. The State was reapportioned into congressional districts.

An antilynching law makes the seizure and lynching of a prisoner in custody of a sheriff not merely *prima facie* but conclusive evidence of the sheriff's failure to do his duty, vacates his office at once, and makes him ineligible for election or appointment to any office. Provided, however, that he may have a hearing before the Governor, and if he can show that he did all in his power to protect the prisoner, he may be reinstated in office.

An antitrust law was passed.

Loan, trust, and safe-deposit companies doing business under the law of 1893 are required to give to the Auditor statements of the full amount of their outstanding obligations, and the amount of premiums charged and received. Savings deposits held by such companies are subject to the same regulations as savings-bank deposits.

A new militia law appropriates \$75,000 a year, and requires regular drill nights in each week of each calendar year, and three days in each year for target practise upon the rifle-range; provided, that not less than one hour and a half actual instruction be considered a drill, nor less than eight hours be counted a day upon the range.

A law regulating the sale of convict-made goods makes so many restrictions as practically to prohibit such sale.

The insurance laws were amended in several particulars.

The soliciting of certain kinds of insurance was prohibited by what was known as "the graveyard insurance bill."

A law for regulating the sale and transfer of grain in elevators and other places of storage was enacted. Persons dealing in grain must make complete written declarations concerning it; and warehouse receipts must contain statements that such declarations have been made.

A law for the better protection of game is more stringent than previous laws on the subject. Hunting is prohibited between Oct. 1 and Nov. 10, except upon special permit of the Game Commissioner; and then the permit does not extend to the hunting of animals for which there is a close season, as, for instance, quails and prairie-chickens, the open season for which begins Nov. 10 and ends Jan. 1. There is also a penalty of fine and imprisonment for selling or offering for sale such birds during the period named, whether the same were killed in this State or elsewhere. The killing of wild ducks and other water-fowl is prohibited from April 15 to Sept. 1 and from Oct. 1 to Nov. 10, except by permit, such permit to be issued to residents free of charge. Non-residents of the State are not permitted to hunt or kill wild animals or game-birds within the State at any time without a license, the cost of which is \$25. It is made a misdemeanor to hunt or shoot on enclosed land without the owner's con-

sent, or to hunt or shoot game or song birds on Sunday.

There is also a new and stringent fish law.

To encourage the study of agriculture, horticulture, economic entomology, and agricultural chemistry, provision was made for county institutes, prescribing the duties of trustees and faculty of Purdue University in connection therewith, and making an appropriation of \$10,000.

Hereafter town officers are to be elected for terms of two years, in May of the odd-numbered years, one-half of those chosen at each election to take office immediately, and the other half the following year.

For the expenses of the session \$115,000 was appropriated. The total of appropriations was \$350,000 less than that in 1899.

Among other enactments were these:

Providing for the sanitation of all food-producing establishments and the health of the operations and the purity of the food-products thereof.

Amending the tax law by providing for taxation of pipe-lines, fast freight lines, lines of oil-cars, refrigerator-cars, and for the shipment of horses, cattle, hogs, sheep, and other kinds of freight.

Providing for the establishment, maintenance, and increase of public libraries in cities or incorporated towns, and for the levying of a tax for such purposes.

Providing for the taxation of steamship and navigation companies.

Amending the act for the settlement and distribution of decedents' estates.

Providing that illegitimate children who have been acknowledged by the parent shall inherit as others.

For the relief of the poor.

Making the United States flag the flag of the State.

Providing a minimum wage-rate of 15 cents an hour for unskilled labor employed on any public work of the State, counties, cities, and towns.

Defining kidnaping and prescribing punishment therefor.

Granting permission for the erection of a statue in University Square, in Indianapolis, to the memory of Abraham Lincoln, in accordance with a request in the will of the late Henry C. Long.

Appropriating \$250 to make a record of home guards that served in the civil war.

For protecting the liberty, safety, and health of labor—relating to factory inspection.

To prevent improper use of the United States flag.

Authorizing cities of 3,500 and not more than 4,000 to accept custody and control of established libraries.

The Supreme Court affirmed the constitutionality of the law giving the wages of working men, to the extent of \$50, a preference over other forms of indebtedness in the case of an employer whose business has been suspended by the action of creditors.

IOWA, a Western State, admitted to the Union Dec. 28, 1846; area, 56,025 square miles. The population, according to each decennial census since admission, was 192,214 in 1850; 674,193 in 1860; 1,194,020 in 1870; 1,624,615 in 1880; 1,911,896 in 1890; and 2,251,829 in 1900. Capital, Des Moines.

Government.—The following were the State officers in 1901: Governor, Leslie M. Shaw; Lieutenant-Governor, J. C. Millman; Secretary of State, W. B. Martin; Treasurer, G. S. Gilbertson; Auditor, Frank F. Merriam; Attorney-General, C. W. Mullan; Superintendent of Public Instruc-

tion, R. C. Barrett; Adjutant General, M. H. Byers; Railroad Commissioner, Welcome Mowry; E. A. Dawson, David J. Bohrer; Labor Commissioner, C. F. Wennerstrom; Game and Fish Commissioner, Samuel Calvin; Fish and Game Commissioner, George E. Delevan, succeeded April 1 by George A. Lincoln; Secretary of the State Board of Education, J. F. Kennedy; Secretary of the State Board of Agriculture, George H. Van Houten; Jail Commissioner, B. P. Norton; Custodian, J. D. McConaugh; Librarian, Johnson Brigham; Board of Commissioners, D. F. Johnston, Mrs. D. W. Harris, Mrs. H. M. Towner, Miss Jessie B. Waiter; Secretary of the Executive Council, A. H. Davison; Chief Justice of the Supreme Court, Josiah Given; Associate Justices, Scott M. Ladd, Emlin McClain, C. M. Waterman, H. E. Deemer, J. C. Sherwin; Clerk, Christopher T. Jones. All are Republicans.

A State election is held every November, but the term of State officers is two years, the Governor, Lieutenant-Governor, Superintendent of Instruction, 1 judge of the Supreme Court, and 1 railroad commissioner being chosen in the odd-numbered years, and the Secretary, Auditor, Treasurer, Attorney-General, a judge, and a railroad commissioner in the alternate years.

The Legislature meets in January of the even-numbered years. If the amendment noted below had been valid, the members would have been chosen at biennial elections in the even-numbered years, and the sessions would have been held in the following years.

Constitutional Amendment Invalid.—An amendment providing for biennial elections was carried at the polls in November, 1900, by a majority of 25,591. It was discovered after the election that the amendment had not been recorded in the Legislature according to the forms required by the Constitution, which says that amendments proposed shall be agreed to by a majority of the members of the two houses and shall be entered on their journals. The amendment in question was not recorded on the House journal of the twenty-seventh General Assembly. A suit was brought in Washington County to test its validity. The decision was against it, and this was affirmed by the Supreme Court Feb. 3. If the amendment had been declared valid, the further question would have come up for settlement whether the new provision should be held to extend the terms of officials holding office in 1900. In order to avoid any question as to the legality of the official acts of the new officials, the Secretary of State and the Treasurer resigned at the beginning of the year and their successors-elect were appointed.

Census Figures.—A late census bulletin shows that the foreign-born population is 305,920. There are 12,693 negroes, 104 Chinese, 7 Japanese, and 382 Indians. Of the men of militia age, 31.4 per



ALBERT B. CUMMINS,
GOVERNOR OF IOWA.

cent. are native whites of foreign parentage, and 16.7 per cent. foreign-born whites. The native whites of foreign parentage and the foreign born together constitute nearly one-half of the males of voting age. Nearly three-fourths of the foreign born are naturalized, namely, 117,524 out of 158,025. The illiterates constitute 10.7 per cent. of the aliens and 4.7 per cent. of the naturalized voters. In the increase of population the State is gaining more native than foreign born.

Finances.—The biennial report of the financial condition of the State shows that it has improved during the period. No interest-bearing indebtedness has existed at any time in the biennium, and the floating indebtedness has been reduced. The revenue has increased, and yet that derived from direct taxation has been reduced. The revenue from counties was \$3,939,323.12, while in the biennial period just preceding it was \$4,055,767.75. But the total receipts in 1900–1901 were \$5,120,059.54, while in 1898–99 they were \$5,079,403.29. The corporation taxes for 1900–1901 were \$425,139.76, which is \$49,543.19 greater than in 1897–99, notwithstanding the fact that telephone, telegraph, and express companies paid taxes to the Treasurer of State for but one year during 1899–1901, the laws of the twenty-eighth General Assembly having authorized the taxation of these corporations in the same manner as the property of individuals, thus requiring payment to the county treasurer instead of to the State.

From State officers fees were received amounting to \$281,875.36, an increase of \$58,320.77. The collateral-inheritance tax yielded \$196,464.54, which is \$143,665.02 greater than in the preceding period.

From State institutions \$181,577.04 was received, an increase of \$56,718.09.

The total of disbursements was \$4,420,193.70. Among the items of expense were: The twenty-eighth General Assembly, \$134,181.29; militia, \$111,976.14; expenses Board of Control, \$45,402.95; expenses of custodian, with his salary, \$41,337.91; the 15 State institutions, \$2,153,269.44.

The State carried a monthly average balance of about \$700,000 in the several depository banks, and the Treasurer recommends that a law be passed providing for depositing the State's money where it will draw interest.

The State levy was fixed in July at 2.7 mills. This is an increase of one-tenth of a mill. The law adds two special levies of one-tenth of a mill each. The total levy, therefore, for the year is 2.9 mills.

The special levies are those of the State University and the State Agricultural College.

The total valuation of property for the levy of 1902 is \$558,508,269.

Education.—Compilation of reports of county superintendents for the year ending Sept. 15, 1900, gave the following summaries: Ungraded schools, 12,615; rooms in graded schools, 5,766; average number days of teaching, 160; school-houses, 13,861; value, \$17,655,922; houses built during the year, 240; enumeration, 731,154; enrollment, 566,223; attendance, 373,474; average to teacher, 29; average monthly tuition, \$1.96; male teachers, 4,948; female, 23,841; average monthly salary of male teachers, \$40.20; of female, \$30.24; schools teaching effects of stimulants, 17,510; enrolled in normals, 19,544; expenses of normals, \$58,675; paid for teachers' salaries, \$5,606,932; for all other purposes, \$3,421,986.

The superintendent says: "Consolidation has been tried in 28 counties, transportation in 35, and both in 19. Consolidation has been adopted by 63 districts, and 30 districts have transported

pupils at the expense of the district. In 9 counties districts have been consolidated without providing transportation at the expense of the districts. In 16 counties pupils have been transported where there has been no consolidation."

The annual report of the State Normal School, at Cedar Falls, shows very rapid growth. In 1901 the school had 2,017 students, or more than any other educational institution in the State, and 49 teachers.

The medical building at the State University, Iowa City, was destroyed by fire in March; the loss was estimated at \$109,305. The flames spread to a building known as the "Old South Hall," the home of 4 of the university literary societies, the engineering department, and some of the chairs of liberal arts.

An increase of 20 per cent. is reported in the attendance in 1900–1901. The total income of the university was \$602,137.

The large experiment barn at the Iowa State College, at Ames, was burned Oct. 25. The increase of students at this college during the biennium was about 40 per cent.

Charities and Corrections.—The statistics of the Board of Control for the past biennium, 1899–1900, show a gain of 341 in inmates of the insane hospitals at Mount Pleasant, Independence, and Clarinda; a gain of 14 at the industrial schools at Mitchellville and Eldora; a loss of 255 at the penitentiaries at Fort Madison and Anamosa; a gain of 147 at the Soldiers' Home at Marshalltown; a loss of 19 at the Davenport Orphans' Home; at Glenwood School for the Feeble-Minded, a gain of 274; making a total net increase of 502. The total cost of support for the two years was \$2,167,906; and from special funds was paid \$337,813 for land, buildings, extraordinary repairs, equipment, transportation, etc. There was a balance of unexpended appropriations, July 1, of \$621,798. For new buildings, \$183,987 was paid. Contracts were let in March for buildings for the Cherokee Insane Hospital, amounting to \$302,975. The whole number of inmates in October was 6,949; and the whole cost of support in that month was \$161,677. The number of insane in State institutions is 2,901; in county hospitals, 987; in private, 453. During the year ending July 1, the counties paid \$714,396 for support of 2,761 persons in 93 almshouses and for outside relief.

Banks.—The total number of State and savings-banks has increased in ten years from 205 to 474. There are now 256 savings and 218 State banks. Their reports for the year ending June 30 are summarized as follow:

Assets: Bills receivable, \$103,634,798.11; gold coin, \$1,443,776.41; silver coin, \$399,979.02; legal tender, national-bank notes, etc., \$3,130,272.60; credits subject to sight draft, \$25,647,492.81; overdrafts, \$1,306,814.52; real and personal property, \$3,991,257.35; total assets, \$139,554,390.82.

Liabilities: Capital stock, \$18,845,400; due depositors, \$114,731,614.06; due banks and others, \$780,949.13; surplus, \$2,710,160.70; undivided profits, \$2,486,266.88; total liabilities, \$139,554,390.82.

On Sept. 30, 1901, the deposits in the State and savings banks of Iowa amounted to \$120,466,645, an increase of \$5,735,031 since June 30.

Insurance.—The Auditor's report of life insurance in 1900 shows a total of 124 companies, including 54 fraternal beneficiary societies and orders, and 8 assessment accident associations. The number of policies in force at the end of the year was 353,444, and the amount of insurance \$514,248,775. During the last biennial period the

insurance companies paid \$95,000 in fees and \$382,165.22 in taxes.

Railways.—Iowa is credited with 267 miles of new railway in 1900. The greater portion of it has been built by the Northwestern and Rock Island, the former having added 133 miles and the Rock Island 105 miles. The remainder was built by the Minneapolis and St. Louis and the Burlington, Cedar Rapids and Northern in making short branches. The whole mileage is 9,185.

The rates of taxes paid on gross earnings, net earnings, and on actual assessments in 1901 are given as, respectively, 0.030, 0.097, and 0.034.

Products and Industries.—The final official report of the national Department of Agriculture on the chief cereals grown in the United States in 1900 proves that Iowa is the first State in this respect, having produced 21,798,223 bushels of wheat, 305,859,948 bushels of corn, and 130,772,138 bushels of oats.

The year 1901 has been much less productive in cereals. An estimate by the crop correspondent of the State weather and crop service, Oct. 1, shows an average yield of 26 bushels of corn to the acre, or a total of 225,570,000 bushels, which is about 35,000,000 less than the State average for the twelve years next preceding.

The beet-sugar product in 1900 was 5,687 tons, worth \$19,904. During the year ending July 1, 1901, the State produced 65,404,842 pounds of butter, worth, at the average market rate of 21.65 cents a pound, about \$14,160,000. Of the amount 57,761,612 pounds were shipped out of the State. Of this, more than 35,000,000 pounds went to New York, probably for transshipment abroad. Records, the commissioner says, show that shipments have been made of Iowa butter even to Australia. There are 1,382,242 cows in the State, 675,000 of which are connected with creameries, and their value is \$37,420,392. The number of creameries reporting was 551.

The Census Bureau issued a preliminary report on the manufacturing industries of the State, Sept. 20. The figures, with per cent. of increase since 1890, follow: Establishments, 14,819; per cent. of increase, 99. Wage-earners, average number, 58,553; per cent., 15. Total wages, \$23,931,600; per cent., 17. Miscellaneous expenses, \$7,988,767; per cent., 39. Cost of materials used, \$101,170,357; per cent., 28. Value of products, including custom work and repairing, \$164,617,877; per cent., 32.

The coal production in 1900 was 85,202,939 short tons, with a spot value of \$7,155,341, a production almost exactly equal to that of the State during the previous year.

Court Decisions.—The so-called "tax-ferret law" has been brought before the courts by persons against whom assessments have been made for back taxes on property discovered by the "ferrets"—that is, men employed by boards of supervisors to search for property omitted from back assessments. In October the Supreme Court sustained the constitutionality of the law.

The decision apparently does not touch the question whether county authorities have the right to pay commissions to the ferrets employed out of the taxes so collected—a question which has been before the district courts.

In the United States district court, at Clarinda, Oct. 28, the law prohibiting the sale of liquor shipped into Iowa from other States in original packages was declared unconstitutional.

A college of osteopathy, in Des Moines, was successful in a suit before one of the lower courts involving the law providing that the State Board of Medical Examiners shall issue certificates to

graduates of schools of osteopathy which are in good standing as such. The reasons urged by the demurrer were that the law is unconstitutional, and that the board is sole arbiter of the administration of the law.

Dedication of a Monument. The Women's Relief Corps of Iowa dedicated, Sept. 16, the monument which they have erected in the national cemetery at Gettysburg to the memory of Jennie Wade, the only woman killed during the battle. The shaft is 12 feet in height and is surmounted by a statue of Jennie Wade. The inscription on the face of the monument is: "Jennie Wade, killed July 3, 1863, while making bread for Union soldiers." On the opposite side appears: "Erected by the Women's Relief Corps of Iowa, A. D. 1901."

Political.—The Republican State Convention met at Cedar Rapids, Aug. 7. The party was divided into factions which were opposed on the candidates for the nomination for the office of Governor. Gov. Shaw declined early in the year to be considered a candidate for a third term; and many others were named and urged by their friends. Albert B. Cummins was nominated on the first ballot. For the remaining offices the following were named: Lieutenant-Governor, John Herriott; Judge of the Supreme Court, Silas M. Weaver; Railroad Commissioner, Edward C. Brown; Superintendent of Instruction, Richard C. Barrett.

The platform expressed approval of the National administration and the work of Congress; condemned the measures adopted in certain States for negro disfranchisement; declared that the Republican policy of protection was the cause of the rapid development of our national resources; favored changes in the tariff to meet changing conditions, and also favored reciprocity; recommended reelection of United States Senators Allison and Dolliver; expressed pride in the elevation of Speaker Henderson; and commended the administration of Gov. Shaw.

The Democrats met in State convention, at Des Moines, Aug. 21. Following is the ticket: For Governor, T. J. Phillips; Lieutenant-Governor, G. E. Ferguson; Supreme Judge, John Shortley; Railroad Commissioner, A. C. Brice; Superintendent of Schools, W. P. Johnson.

The declaration of principles included the following:

"The Democratic party believes that the burden of taxation should be borne equally by all taxable property subject to the jurisdiction of the State. We pledge our members of the General Assembly to formulate and urge the adoption of such a law as will compel the burden of taxation to rest on corporate and individual property alike, without favor or exemption of any interests.

"We demand economy in the administration of State affairs, the repeal of the mullet laws, the enactment of a local option law, the abolition of the offices of State printer and State binder, and the contracting for supplies for the State with the lowest responsible bidders."

The People's party, in convention at East Des Moines, Aug. 23, chose the following candidates: For Governor, L. H. Weller; Lieutenant-Governor, Perry Engle; Supreme Judge, J. R. McDonald; Railroad Commissioner, Luke McDowell; State Superintendent, Ira C. Harland.

The resolutions, after setting forth the evils of trusts, the power of railroad companies, the granting of franchises, etc., said:

"We extend our sympathy to all peoples struggling to establish more representative forms of government and we condemn the concerted action

of the present administration and the administration of England in trying to crush out young republics, and establish in their places Crown colonies and imperialistic rule. We especially commend and indorse that system of government known as direct legislation.

"On State issues we demand the equal taxation of all property, whether corporate or private, and we further demand that no person be compelled to pay taxes on property over and above the equity he has in the same."

The Prohibitionists named candidates as follows: For Governor, A. U. Coates; Lieutenant-Governor, A. B. Wray; Judge of the Supreme Court, J. A. Harvey; Railroad Commissioner, Wesley Suddoth; Superintendent of Instruction, Miss Ella Moffatt.

The Antisaloon League, which held a convention at Des Moines, Aug. 26-27, refused a reelection to its State superintendent, H. H. Abrams, because he had declared that he would vote for the Republican candidate for Governor, and was in favor of retaining the mulct law, rather than throw away his vote on a candidate with no prospect of success. He was afterward, however, elected superintendent of the league's department of enforcement of law.

The Socialist party of Iowa, successor to the Social-Democratic party of former years, was organized in Des Moines at the State convention of socialists, on Sept. 5. A full ticket was named. Following were its candidates: For Governor, James Baxter; Lieutenant-Governor, W. A. Jacobs; Judge of the Supreme Court, A. F. Thompson; Railroad Commissioner, H. C. Middlebrook; State Superintendent, E. E. Stevens.

The Republican candidates were elected. The official count gives the following vote for Governor: Cummins, Republican, 226,839; Phillips, Democrat, 143,655; Coates, Prohibitionist, 15,645; Baxter, Socialist, 3,460; Weller, Peoples', 778; total, 390,377; Cummins's plurality, 83,184; Cummins's majority, 63,303.

For the State Senate, 39 Republicans and 11 Democrats were elected; and for the House, 84 Republicans and 16 Democrats.

KANSAS, a Western State, admitted to the Union Jan. 29, 1861; area, 82,080 square miles. The population, according to each decennial census, was 107,206 in 1860; 364,399 in 1870; 996,096 in 1880; 1,427,096 in 1890; and 1,470,495 in 1900.

Government.—The following were the State officers in 1901: Governor, William E. Stanley; Lieutenant-Governor, Harry E. Richter; Secretary of State, George A. Clark; Treasurer, Frank Grimes; Auditor, George E. Cole; Attorney-General, A. A. Godard; Superintendent of Public Instruction, Frank Nelson; Secretary State Board of Agriculture, F. D. Coburn; Adjutant-General, S. M. Fox; Superintendent of Insurance, W. V. Church; Oil Inspector, S. O. Spencer; Grain Inspector, A. E. McKenzie; State Printer, W. Y. Morgan; Bank Commissioner, Morton Albaugh; Labor Commissioner, W. L. A. Johnson; Members State Board of Charities, Henry J. Allen (president), Edwin Snyder (secretary), G. W. Kanavel (treasurer), Reuben Vincent, and John Hannon. All the elected officers are Republicans. Supreme Court—Frank Doster, Chief Justice; William A. Johnston, William R. Smith, Edwin W. Cunningham, Adrian L. Greene, Abram H. Ellis, and John C. Pollock, Justices. Prior to 1901 the Supreme Court consisted of the Chief Justice and two associate justices. The court was so far behind with its work that in 1895 provision was made for a court of appeals, of 6 members, to relieve the Superior Court of a portion of its work. The

Court of Appeals expired by limitation of the law Jan. 14, 1901. At the general election of 1900 a judicial amendment to the Constitution, providing for the increase of the membership of the Supreme Court to 7, was adopted, and the 4 additional members—Cunningham, Greene, Ellis, and Pollock—were appointed by Gov. Stanley. With the exception of the Populist Chief Justice, all are Republicans. The State officers are elected in November of the years of even number. The Legislature meets biennially in January of the odd-numbered years. The session is limited to fifty days.

Finances.—Owing to exceptionally large appropriations, there was a deficiency in the treasury in October, and for nearly two months the Treasurer was obliged to stamp warrants "Not paid for want of funds." But by Dec. 1 funds were available in such amount that cash payments were resumed. The Treasurer expected to be able to retire the \$350,000 worth of stamped warrants in February, 1902. Up to Dec. 26, 1901, the amount of money collected during the year for all purposes amounted to \$3,900,613.56. This was distributed among the various funds, the expenditures of which were, up to that date, general revenue, \$1,764,353; State-House, \$579.01; State-House completion, \$42,186.78; interest, \$23,297.39; interest on State twine-plant fund, \$64,830.21; current University, \$5,073.75; permanent school, \$776,440; annual school, \$397,705.17; University permanent, \$7,950; University interest, \$6,236.51; Normal School permanent, \$31,750; Normal School interest, \$13,573.55; Agricultural College permanent, \$35,300; Agricultural College interest, \$28,005; United States aid to Agricultural College, \$25,000; municipal interest, \$21,117.16; twine-plant revolving fund, \$115,000; insurance examination fees, \$1,787.71; Stormont Library, \$600; Stormont Library interest, \$92.75; total, \$3,360,876.15.

The balances in the various funds on Dec. 26 were: General revenue, \$251,771.86; State-House, \$162.16; State-House completion, \$51,707.54; current University, \$3,431.39; permanent school, \$79,628.26; annual school, \$28,218.88; University permanent, \$124.70; University interest, \$966.91; Normal School permanent, \$6,196.29; Normal School interest, \$1,072.14; Agricultural College permanent, \$33,016.84; Agricultural College interest, \$3,117.75; insurance, \$3,069.90; Stormont Library permanent, \$1,686.71; municipal interest, \$4,235.57; twine-plant revolving fund, \$65,000; insurance examination fees, \$45; total, \$533,451.70.

The State School Fund Commissioners in 1901 purchased for the Permanent School, University, Agricultural College, and Normal School funds \$951,440 in bonds, and distributed in interest among the public schools and State institutions \$445,519.72.

Banks.—In the 119 national banks and 422 State and private banks, at the close of business, Sept. 30, 1901, the total amount on deposit was \$87,181,194.14. Individual deposits in the State banks aggregated \$42,076,447.62; in the national banks, \$35,360,516.97. The average reserve held in the State banks amounted to 53.21 per cent., and that in the national banks 45.78 per cent. While there are more than three times as many State banks as national banks, the capital stock of the former aggregates but \$7,000,000, compared with \$8,000,000 of the latter. As to surplus funds, the State banks have \$1,587,261.01, and the national \$1,526,782.21. The per capita deposit in Kansas is \$59.28.

There are 37 State banks that have more money

credited to surplus and undivided profits than they have in capital stock. With but a few exceptions these are in small towns, with good agricultural surroundings, their capital ranging from \$5,000 to \$35,000.

Education.—Kansas has a school population of 508,854, and enrolment of 389,582. The average daily attendance is 261,783. There are more than 11,600 teachers, whose combined annual salaries are in excess of \$5,000,000. In the past year 175 schoolhouses were erected, at a cost of over \$140,000. In proportion to population, Kansas has a school enrolment larger than that of any other State in the Union. There are 24 denominational colleges. During the year Campbell University, at Holton, formerly non-sectarian, passed into the control of the Baptists. There are 3 independent normals—Salina Normal University, Salina; Central Normal College, Great Bend; and Nickerson Normal College, at Nickerson. There are 14 academies and 15 business colleges. There are 10 county high schools, which employ 60 teachers. The present enrolment approximates 1,800. The total value of the property in the public schools, denominational colleges, and State institutions is more than \$20,386,000. There are now 26 counties in which women are superintendents of public instruction. Two of this number are serving fifth terms.

The State University, at Lawrence, has 80 instructors; enrolment, 1,095; value of property, \$930,000; appropriation by the last Legislature, including money for new buildings, \$210,000.

The State Normal School, at Emporia, has 44 instructors; enrolment, 2,150; value of property, \$490,000; last appropriation, \$159,000.

St. John's Military School, at Salina, has 8 instructors; value of property, \$87,000; enrolment, 73.

Midland College, at Atchison, has 15 instructors; value of property, \$80,000; enrolment, 153.

The College of the Sisters of Bethany, at Topeka, has 16 instructors; value of property, \$400,000; enrolment, 194.

The College of Emporia has 12 instructors; value of property, \$100,000; enrolment, 106.

Baker University, at Baldwin, has 32 instructors; value of property, \$125,000; enrolment, 750.

McPherson College, at McPherson, has 20 instructors; value of property, \$55,000; enrolment, 330.

Kansas City University has 76 instructors; value of property, \$214,000; enrolment, 327.

Bethany College, at Lindsborg, has 40 instructors; value of property, \$165,000; enrolment, 800.

Lane University, at Leocompton, has 7 instructors; value of property, \$30,000; enrolment, 140.

Ottawa University has 23 instructors; value of property, \$220,000; enrolment, 603.

St. Marys College, at St. Marys, has 28 instructors; value of property, \$200,000; enrolment, 323.

Traveling Libraries.—The traveling library department of the State Library contains nearly 10,000 books. Libraries to the number of 153 are in actual use, being sent wherever they are asked for. Each of the little libraries contains 50 books, the 153 cases now in use being equivalent to 7,650 books in service in 153 communities. The majority of them are in the hands of district schools, but they are sent out also to study clubs, literary societies, teachers' associations, etc.

Insurance.—In 1901 the taxes and fees from insurance companies turned into the general revenue fund aggregated \$115,063.71, against \$109,962.66 for the previous year. In 1900 the department collected for the Firemen's Relief fund an aggregate of \$20,640.26. This sum for

1901 will be slightly exceeded. There are 204 insurance organizations operating in the State: Stock fire companies, 13; mutual fire companies, 17; mutual hail companies, 2; mutual and straight life companies, 38; fraternal companies, 20; fraternal beneficiary societies, 51. In 1901 there were admitted to do business in the State 3 fire, 8 life, 2 casualty, and 8 fraternal organizations. There were withdrawn 5 fire, 1 accident, and 3 fraternal concerns. The department issued for 1901 10,293 agents' licenses.

Charitable Institutions.—At the Soldiers' Home, Atchison, there are: officers and employees, 43; inmates, 155. The Industrial School for Girls, at Beloit, has: officers and employees, 17; inmates, 125. Topeka Insane Asylum has: officers and employees, 142; inmates, 901. Osawatomie Asylum has: officers and employees, 166; inmates, 991. The Deaf-and-Dumb Institution, at Olathe, has: officers and employees, 54; inmates, 244. The Reform School, at Topeka, has: officers and employees, 31; inmates, 179. The Imbecile Asylum, at Winfield, has: officers and employees, 38; inmates, 220. The Blind Asylum, at Kansas City, has: officers and employees, 34; inmates, 90.

The State Penitentiary, at Lansing, has: officers and employees, 95; inmates, 985. Hutchinson Reformatory has: officers and employees, 36; inmates, 226. The State Soldiers' Home, at Dodge City, has: officers and employees, 31; inmates, 416.

Railroads.—The latest available returns for the year 1900 show for Kansas 8,716.62 miles of main track and 1,476.56 miles of side tracks. The total assessments of railroad, telegraph, and telephone properties is \$59,320,032. But little railroad-building was done in 1901. The Rock Island made an extension of its line from Liberal, in Stevens County, to El Paso, Texas, only about 20 miles of the road being in Kansas. A charter was granted to the Fort Scott, Iola and Western, an organization believed to be backed by Missouri, Kansas and Texas interests, and a road is partially constructed between Fort Scott, Bourbon County, and Piqua, in Woodson. Only 5 of the 105 counties, and but 7 county-seats, are without railroad communications.

The Omaha, Kansas and Gulf road has received articles of incorporation. The avowed purpose is to build a line from Emporia to Omaha, Neb., the route extending through Lyon, Wabaunsee, Pottawatomie, Shawnee, Jackson, Geary, Marshall, and Nemaha Counties, in Kansas. The intention is to build from both ends of a north and south independent line 8 miles in length now in operation in Pottawatomie County, the shortest line in the West, which gives Westmoreland, the county-seat of Pottawatomie, connection with the Leavenworth, Kansas and Western at Blaine.

The consolidation of the Kansas City, Fort Scott and Memphis and the St. Louis and San Francisco was effected in the summer. The former road had a mileage of 258.37 miles in Kansas, the latter 362.81.

In May, 1900, the Kansas City, Mexico and Orient Railway was chartered in the State of Kansas with a capital stock of \$25,000,000. Bonds of the State of Kansas to the amount of \$250,000 have been voted to this corporation. It is proposed to build the road from Kansas City to Port Stilwell, on the Gulf of Mexico. About 240 miles have been graded.

Products.—In common with other States of the West, Kansas suffered from extremely dry weather during the crop-making season, yet, notwithstanding the diminished corn-crop, reports made by the secretary of the State Board of Agri-

culture show a net increase of \$7,485,246 in the value of the year's agricultural product over that of 1900, making the total of these, as it is in live-stock values, the greatest in the State's history. The yield of winter and spring wheat was 90,333,095 bushels, valued at \$50,610,505.75. The yield of corn was 42,605,672 bushels, valued at \$21,731,215.39. This year's yield of wheat is more by 11,915,183 bushels, or 15.2 per cent., than the United States Department of Agriculture has ever reported raised by any State in any year, barring the Kansas yield in 1900. The yield of corn in the State was cut down from 134,523,677 bushels in 1900 to 42,605,672 in 1901. Oats and rye each had increased value for 1901, amounting to \$1,405,195 together, although the former crop fell more than 10,000,000 bushels below the 1900 yield, while the production of rye was greater by nearly 52 per cent. Irish and sweet potatoes were less by 11,915,183 bushels than in 1900. Other crops, mostly of minor importance, show decreases in both yields and values, except tame and prairie hay, which together, although having fewer tons, had a value exceeding that of 1900 by \$7,318,602, or 12.3 per cent. The sorghums for grain and forage for 1901 were worth more than in the year preceding by \$1,138,339, or 13.1 per cent.

For the surplus animals slaughtered or sold for that purpose the value was \$60,902,241, an increase over the previous year of more than \$6,580,000, or 12 per cent.; while the value of the dairy and poultry products and wool exceeded their combined value in 1900 by \$1,111,045.

All live stock increased in numbers except sheep and swine, which show slight decreases compared with 1900; but the total value was \$153,037,732, a net increase of \$9,579,979. The total value of farm-products for the year was \$195,254,652; total value of live stock, \$158,037,732.

Sugar-Beet Bounties.—The Legislature of 1901 passed a law providing for a bounty of \$1 a ton on all sugar-beets raised in the State showing 12 per cent. or more of sugar. The investigation to determine those entitled to the bounty was made by F. D. Coburn, secretary of the Board of Agriculture. His report shows the following facts in relation to the new crop, which is grown in the extreme western portion of the State by the aid of irrigation: Number of beet-growers, 77; acres harvested, 337; average acreage for each grower, 4.37 acres; average harvested by each grower, 22.82 tons; maximum tonnage by one grower, 111 tons; minimum, 1.5 ton; average yield per acre, 5.22 tons; maximum yield per acre, 18.41 tons; minimum, 1.15; average per cent. of sugar, 17.8; maximum per cent. of sugar, 22.8; minimum, 13.3; average price per ton received, exclusive of bounty, 5.14; average profit per acre, computed from reports of 37 growers, \$17.03. The average per cent. of sugar developed by the beet-farmers of Germany, the home of the industry, is 15 per cent. Tests made at the State Agricultural College showed that 16 different samples of beets developed an average of 21 per cent. of sugar.

Model Farm.—A new feature of work in connection with the State Agricultural College will be the establishment of a model farm, under direction of the regents of the institution, on the old Fort Hays military reservation, ceded by the General Government to the State. Preparations to this end are under way.

Labor.—Eight hours constitutes a day's service in State, county, city, town, and other municipal work. The matter of seeing that the law is

obeyed is in the hands of the State Labor Commissioner. During the year he won recognition for the law by taking 9 cases into court. The law was enforced in 200 cases without litigation; altogether about 1,000 men were affected by the cases taken up.

In a dispute between the Miners' Union and the companies over the meaning of a certain phrase in the working contract, Chief-Justice Doster, of the Supreme Court, was asked to act as arbitrator. A clause in the contract provided that all matters not settled at the annual conference should be arbitrated. Judge Doster's decision was in favor of the men of the union, and the result was an increase in the amount earned annually of several thousand dollars in the mining district.

Free Employment Agency.—By act of the Legislature, a bureau of this nature was organized under the direction of the State free employment agent. It has been in operation since May 1, and has been the means of securing employment for 2,200 to 2,500 persons. No charges are made either to those seeking employment or to those in quest of help. In assisting the farmers to secure help during the harvest season, the agency demonstrated its efficiency, although it was scarcely organized. The State employment agent works in connection with the clerks of all cities of the first and second class, the clerks receiving no additional remuneration for their work of this character. All books and blanks are furnished by the State, the city furnishing a room in which to do the business. For the most part, house-maids and common laborers have been benefited in the greatest degree by the new law, although it is planned for all classes.

Prohibition Crusade.—The most remarkable movement in connection with the Kansas law prohibiting the sale of liquor marked the year 1901. Its active spirit was Mrs. Carrie Nation, of Medicine Lodge. She raided a saloon in her home county in the autumn of 1900, but first became widely known near the close of that year, when she wrecked the handsome bar of the leading hotel in Wichita, and marred a valuable painting that offended her ideas of propriety. She was placed in jail, and afterward was released on bond. Not until near the close of 1901 were all the cases against her in Wichita dismissed. When she was released, she set out on a tour of the State, and at several points gave exhibitions of "saloon-smashing." In Topeka she was received with open arms by many of the most zealous opponents of the liquor interests. There were no saloons in Topeka, but many "joints," where the illicit sale of liquor was carried on. Mrs. Nation soon had the capital city in an uproar. She "smashed" several saloons, and a large number of her followers effected a regular organization for the purpose of bringing the liquor traffic to an end by forcible means. Many persons of standing were among her ardent supporters. One of these was a minister, who was fined in the police court for attempting to use a weapon while raiding a wholesale liquor house. From the first, however, the more conservative Prohibitionists refused to have anything to do with the movement, maintaining that nothing could be gained by trying in an illegal manner to suppress an illegal traffic. Mrs. Nation was arrested repeatedly, and was in jail in Topeka several times. She started a paper—*The Smasher's Mail*—made up for the most part of illiterate communications from zealous adherents all over the United States. The paper did not pay nor last long. The furor in Kansas caused an un-

usually large number of the municipal elections in April to hinge on the "wet" or "dry" question. In many towns there were some exciting scenes. At several points, following Mrs. Nation's lead, mobs formed, and in many instances women were the active spirits. Joins were wrecked, and considerable litigation followed. One of Mrs. Nation's Topeka followers, a young man, who had been active in wrecking a joint, appealed his case from the district court, where he had been fined, to the Supreme Court, pleading that an illegal business had no rights at law. The Supreme Court affirmed the decision of the court below, and this put a damper on the ardor of the Nation followers, and ended the "smashing" campaign. Mrs. Nation then set out on a lecturing tour, but financially her success was indifferent. Her husband, a veteran of the civil war, brought suit for divorce on the ground of desertion. She returned to Kansas in November to fight the suit, but the divorce was granted. During the progress of the trial Mrs. Nation admitted that one reason for fighting the case was that she wished to be in a position to draw a widow's pension on the death of her husband.

For the purpose of ascertaining to what extent the prohibition law is violated in Kansas, the State Temperance Union instituted an inquiry in the summer. Queries were sent to 200 cities, and 192 replies were received. For the purpose of the investigation the cities were divided into four classes: (1) Cities the known and avowed policy of which is to collect license from the joints as a means of revenue, the license taking the name of a fine, and usually being collected once a month. Twenty-five were listed in this class. (2) Cities in which the joints are probably licensed by the officers, but in a clandestine manner, the joints running almost openly despite the supposed efforts of the officers to close them. Twenty-three were listed in this class. (3) Cities in which it is generally known or believed there are joints, but the proprietors of which "do their business like thieves, avoiding the officers, and constantly fearing arrest." Fifty-two were listed in this class. (4) Cities in which there is no joint, and but little and only occasional "bootlegging." In this class 92 were listed.

Lawlessness.—In March there was a mutiny on the part of prisoners in the State Penitentiary who worked the coal-mines. On the 18th they overpowered the guards on duty in the mines, and threatened to kill their prisoners unless the warden would consent to reduce the amount of coal called a day's work. The warden refused to make any terms with them. A negro convict made the perilous climb of 720 feet from the bottom of the mine up the shaft to the top, for the purpose of acquainting the officials with the situation beneath. He went down again in a cage, with guards. The convicts were fired upon, and two were wounded. The imprisoned guards were released, after having been held for two days. The convicts were then hauled to the top and put under close restraint. The negro who made the climb was pardoned. Two hundred and eighty-four convicts were concerned in the mutiny.

Another mutiny occurred in November at the Federal Penitentiary, within a few miles of the State institution. A large cell-house was in course of construction, the work on it being done by convicts, out in the open and insufficiently guarded. Presumably through the agency of discharged prisoners, several convicts received weapons, and on the afternoon of Nov. 7 overpowered their guards, and 27 succeeded in getting away. In the mêlée one convict was killed and another

fatally wounded. Three convicts were wounded, one of them mortally. At Nortonville, a day or two later, in a fight between a squad of the convicts and a posse, two of the former were killed and two were wounded. One of the sensational incidents connected with the escape, and the capture, by two convicts, of Sheriff Cook, of Shawnee County, within a few miles of the capital of the State. He was kept in a farmhouse several hours, and officers on the outside were deterred from making any attempt to rescue him because of threats made to kill him. The convicts finally left the house, using the sheriff and a farmer and his wife as shields, and made good their escape. Captures were made at various points, but of the 27 that broke away, 9 escaped.

Legal Decisions.—In the case of the State of Kansas vs. Board of County Commissioners of Wichita County (62 Kan., 494), the Supreme Court held that "boards of county commissioners are authorized to refund bonded indebtedness which has been outstanding more than two years; and where a board issues refunding bonds under the refunding act, and recites on the face of the refunding bonds that the debt refunded is in county bonds which actually existed when the act was passed, and which have been outstanding more than two years, and that all prerequisite facts existed, and all conditions precedent to the issue of refunding bonds had been complied with, and at the same time makes a full report to the Auditor of State of the steps taken and the proceedings had in the matter of refunding, as the refunding act requires, certifying that all acts and conditions and things required to be done precedent to the issue of the bonds had been properly done and performed—the defense that the debt refunded was not bonded indebtedness nor bonds which had been outstanding more than two years is not available against a *bona fide* holder; nor can the county escape liability on the ground that the bonds issued exceeded in amount the limit prescribed by the refunding act."

The same court, in the case of The State of Kansas vs. Robert Simons (61 Kan., 752), decided that "the assent by a defendant upon trial on a charge of felony to the discharge of one of the jurors, with an agreement to submit to a verdict by the remaining number, is insufficient to bind him, and in such case, in the event of an adverse verdict, he is entitled to a retrial notwithstanding his agreement. When not enough jurors of the regular panel to constitute a jury are in court, and either party to a case called for trial requests that the necessary additional number be drawn, in the manner prescribed by chapter cxi, Laws of 1899, it becomes the duty of the judge to cause the drawing to be made, and not to fill the panel with talesmen from among the bystanders."

The Kansas law of 1897, empowering the State authorities to fix the charges of stock-yard companies in November, was declared unconstitutional by the Supreme Court of the United States on the ground that it was class legislation, and its enforcement would deprive the company of its property without due process of law. The decision reverses the United States Circuit Court.

Legislative Session.—The Legislature (Republican in both branches) assembled on Jan. 8, and remained in session until March 9. The appropriations amounted to \$4,476,297, compared with \$4,230,802 expended by the Legislature of 1899.

A great deal of money was expended in providing for new buildings at the State institutions. The University at Lawrence was given a new museum building at a cost of \$75,000. Provision

was made for a library for the Normal School, at Emporia, to cost \$60,000. The Agricultural College, at Manhattan, was allowed \$70,000 with which to build a physics and chemistry building to replace one destroyed by fire. The Quindaro Industrial School, at Wyandotte, for negro youth, was given \$13,000 for new buildings. Provision was made for a new cell-room at the State Penitentiary, to cost \$2,000, and for a new cell-block for the Boys' Reformatory, at Hutchinson, to cost \$15,000. Five thousand dollars was appropriated to erect an engine-house and laundry building at the State Industrial School for Girls, at Beloit, to replace one burned down. For the Topeka Insane Asylum \$10,000 was appropriated to finish the work on the new administration building, and the asylum at Osawatimie was given \$25,000 with which to complete and equip the new hospital. A third asylum for the insane is to be built at Parsons at a cost of \$150,000, for which a reappropriation was made.

Following are some of the more important measures that became laws:

For the appointment of cattle-brand inspectors.

Allowing cities of the second class to issue bonds to pay their floating indebtedness.

Making train-robbing punishable by life imprisonment.

Creating a State board of railroad commissioners, to take the place of the old Court of Visitation, the bill creating the court having been declared unconstitutional.

Enabling railroad employees to vote wherever they may happen to be, when in line of duty, on Election Day.

An amendment to the libel law, making it less easy to "hold up" newspapers.

Prohibiting prize-fights.

To prefer the wages of employees of defunct corporations.

Providing for the care of dependent children.

To establish an experiment station and a branch of the State Normal School on the Fort Hays reservation.

For a park at Pike's Pawnee village, in Republic, where Gen. Zebulon Pike, on his pioneer trip through the West, found a Spanish flag flying over an Indian village, took it down, and ran up the Stars and Stripes.

Prohibiting the sale of opiates except on prescription of physicians.

Providing for the reorganization of the Kansas National Guard.

A bill known as the "Hurrell law" was passed for the purpose of strengthening prohibition legislation by providing for search and seizure of contraband liquor. Many actions were brought under it and convictions secured, particularly in Topeka, where about 100 cases were pending, when Judge Hazen, of the Shawnee district court, decided, in December, that the law was unconstitutional.

Provision was made for biennial elections.

Another election bill that passed is known as the "antifusion" law. It prohibits the appearance of any one name in more than one column on the ballot.

Political.—No party conventions were held this year, and the passage of the biennial election law resulted in no general election in the autumn. Elections were held for county commissioner in one district in each county, the result being that the Republicans elected 64 out of the 105.

In order to determine the legal make-up of the election boards the Secretary of State made an analysis of the vote cast at the general election in 1900, and for the first time it was demonstrated

to a certainty that the Populist party was the third in numbers in the State. The count showed votes cast by Republicans, 181,893; by Democrats, 83,388; by Populists, 81,220. In seven years the Republicans gained 33,196 votes and the Democrats 54,966, while the Populists lost 37,904.

KENTUCKY, a Southern State, admitted to the Union June 1, 1792; area, 44,400 square miles. The population, according to each decennial census since admission, was 220,955 in 1800; 406,511 in 1810; 564,135 in 1820; 687,917 in 1830; 779,828 in 1840; 982,405 in 1850; 1,155,684 in 1860; 1,321,011 in 1870; 1,648,690 in 1880; 1,858,635 in 1890; and 2,147,174 in 1900. Capital, Frankfort.

Government.—The following were the State officers in 1901: Governor, J. C. W. Beckham; Secretary of State, C. B. Hill; Treasurer, S. W. Hager; Auditor, G. C. Coulter; Adjutant-General, David R. Murray; Attorney-General, R. C. Breckinridge, adjudged by the Court of Appeals, Nov. 20, not to be entitled to the office by a decision in favor of the contestant, Clifton J. Pratt; Superintendent of Education, H. V. McChesney; Commissioner of Agriculture, I. B. Nall; Commissioner of Insurance, J. B. Chenault; Chairman of the Railroad Commission, C. C. McChord—all Republicans but Pratt; State Inspector, Henry B. Hines; Chief Justice of the Court of Appeals, B. L. D. Guffy; Associate Justices, J. D. White, George Du Relle, A. Rollins Burnam, T. H. Paynter, J. P. Hobson, Ed. C. O'Rear; Clerk, Samuel J. Shackelford. The clerk and Justices White, Paynter, and Hobson are Democrats; the other justices are Republicans.

Elections of State officers are held in November of the years next preceding presidential elections. The term of office is four years. The Legislature consists of 38 Senators and 100 Representatives, and meets biennially, the first Tuesday after the first Monday of January in even-numbered years.

Census Figures.—A census bulletin giving the population of the State by sex, nativity, and color shows that there are 1,003,697 males and 1,033,228 females, of whom there were foreign born 265,530 males and 237,119 females, and natives of foreign parentage 67,600 males and 71,157 females. The total negro population was 142,073 males and 142,633 females, the native whites of native parents amounting to 854,002 males and 819,411 females.

In Kentucky there were only 54 male Chinese and 3 females, no Japanese, and 52 male and 50 female Indians.

The percentage of the urban population is given as 19.7.

Finances.—The Auditor's report covers the two years ending June 30, 1901. The amount of cash in the Treasury July 1, 1899, was \$385,148.70; on July 1, 1900, it was \$570,347.69. The total receipts for the fiscal year ending June 30, 1901, was \$4,447,474.51. Of this amount, \$1,404,465.63 was placed in the general expenditure fund. This fund, to which 15 cents tax on each \$100 worth of property goes to defray ordinary expenses, is, the Auditor says, inadequate to defray such expenses. The amount paid out during the last fiscal year under the head of general expenditures was \$2,862,829.94, leaving a deficit in this fund of \$1,458,364.31.

The Auditor estimated the amount that would be on hand Jan. 1, 1902, at about \$1,000,000, but that not one dollar of this amount will be in the general expenditure fund under the present law.

The State paid out during the year for criminal prosecutions \$595,692.30; for salaries to circuit judges and attorneys, \$123,821.08; for charity, the

insane asylums, and other institutions, \$729,678.36, showing a total of \$1,449,191.74. This expenditure exceeds the expenditure fund under the present law for this purpose by \$44,726.11. The expenses incurred during the past two fiscal years for criminal prosecutions and jury expenses and that incurred in the support of pauper idiots show enormous increases.

The Auditor calls attention to the enormous bank deposits which are permitted under the present law to go untaxed. Only 13 per cent. of deposits was taxed in 1901. The amount of omitted taxes from this source alone in two years was \$578,584.04.

The amount of military appropriation expended since the last session was \$29,572.73, and the Attorney-General has been directed to sue for money illegally appropriated under the Taylor administration.

The expenditures on account of the penitentiaries from July 1, 1900, to June 30, 1901, were \$180,391.11, while the receipts for the same time were \$151,262.54.

Education.—Estimates of the resources of the school fund, given by the Auditor in July, are for the year ending June 30, 1902: Balance on hand, \$40,235.46; interest on bonds, \$138,755.80; dividend of Kentucky banks, \$6,000; licenses, \$136,510.53; sheriff's revenue, 1901, \$1,200,000; railroads, \$147,928; State banks, \$33,176; miscellaneous corporations, \$85,000; fines and forfeitures, \$7,250; distilled spirits, \$41,680.50; miscellaneous receipts, \$13,000; total, \$1,858,536.29.

The number of school-children is 728,799, and the total estimate of the school fund enables the Superintendent of Public Instruction to declare a per capita of \$2.50.

It was announced on July 16 that the consolidation of the Presbyterian theological seminaries at Louisville and Danville, Ky., into one institution at Louisville, and the consolidation of Center College, at Danville, and Central University, at Richmond, Ky., into one university, at Danville, was completed.

Railroads.—The total earnings of the Louisville and Nashville Railroad Company for the fiscal year ended June 30 were \$28,022,206, an increase of \$279,828 over the preceding year. The total operating expenses were \$18,233,033, a decrease of \$70,373. The net earnings from all sources were \$10,493,861, an increase of \$704,844.

On July 20 a decision was given in the State fiscal court, refusing an injunction to restrain the Auditor from certifying to the local taxing authorities for county and municipal purposes the amount of franchise taxes assessed against the railroads by the Board of Valuation and Assessments. The railroads have not paid this tax since the adoption of the new revenue law of 1893 and the tax bills will amount to more than \$500,000.

Insurance.—The Auditor has ruled that life insurance companies doing business in Kentucky are liable for franchise taxes under the franchise revenue law of 1893.

Banks.—Complaints have been made by banks in the State of the strict enforcement of the law requiring reports which heretofore, as it appears, has been neglected. The law requires that every bank shall make quarterly reports, and that every other report shall be published in the paper of its county having the largest circulation, and imposes a fine of \$200 for failure so to publish.

A most flagrant case of bank-wrecking was discovered in November, 1900, in the German National Bank of Newport. Frank M. Brown, the individual bookkeeper and assistant cashier, was missing, leaving a shortage of about \$195,000.

The cashier was arrested in January on a charge that he knew in April, 1900, that his assistant was short.

Militia.—Under the allotment of the Secretary of War, the State received \$7,614 for its militia.

Products and Industries.—The preliminary census report on the manufacturing industries of Kentucky shows the capital invested to be \$101,030,791, an increase of 30 per cent. since 1890; 9,559 establishments, 63,206 wage earners, \$22,430,958 total wages, \$19,577,809 miscellaneous expenses, cost of material used \$82,768,955, and value of products \$154,590,069, an increase of 2 per cent.

The cotton product of 1900-1901, as estimated, was smaller than that of the preceding year; the consumption in mills was 23,985 bales, a decrease of 3,554.

The coal output of 1900 was 5,181,917 short tons, valued at \$4,730,698. The increase was 575,000 tons.

The product of oil is increasing rapidly. New fields are being investigated, and companies are forming for their development.

A new and rich district for the production of lead, zinc, and fluorspar is reported in Livingston and Crittenden Counties.

Under a plan agreed upon by the Kentucky distillers in July the production for the ensuing year was limited to 25,000,000 gallons. It is assessed for taxation at \$10 a barrel, an increase of \$2. In 48 of the 119 counties liquor is not allowed to be sold; of these, 31 are mountain counties.

Labor.—Hopkins County was kept in a state of turmoil during a large part of the year, in consequence of a strike of the United Mine Workers and their attempts to drive non-union workmen from the mines. The strikers were armed, and many of them were gathered in camps. Violent attacks were made on dwellings of officers and workmen, and they were forced away from the mines by strikers armed with rifles. The sheriff organized a posse to resist them, and the militia was finally called upon. On Oct. 23 the Governor recalled the militia, believing that the danger was over; but they were sent again on the recommendation of the adjutant-general, Nov. 14. On Nov. 18 3 men were killed and others wounded in a mine fight at Providence, and riots at other mines followed. The county judge ordered the camps broken up, and many of the men dispersed. About 25 who remained in one of the camps were arrested. Earlier in the year 9 men were arrested and taken to West Virginia, charged with terrorizing the miners on the West Virginia side of the river by shooting at all who could not give the proper strikers' sign as they passed and re-passed along the railroad. On Dec. 30 James D. Wood, president of the United Mine Workers of the twenty-third district, was arrested at Evansville on the charge of being accessory before the fact in the murder of Morton Bush, a colored non-union miner. Bush was shot from ambush.

The Goebel Murder Trials.—The Court of Appeals, March 27, granted new trials to Caleb Powers and James Howard, convicted in 1900 and sentenced, the former to life imprisonment, the latter to death, in connection with the murder of Gov. Goebel. The court held that Judge Cantrell's instructions to the jury were not what they should have been.

In the case of Howard, the entire court concurred; but in the Powers decision Judges Hobson, White, and Paynter dissented.

The trial of Caleb Powers began Oct. 8. The

prisoner's attorneys filed an affidavit setting forth that the court was partizan, that the presiding judge was a candidate for the United States Senate and deeply prejudiced against the accused personally, as well as politically, etc. Judge Cantrill refused to vacate the bench. The objections to him were probably based in part, at least, on instructions given by him, Sept. 9, to the grand jury at Frankfort. The jury was made up entirely of Democrats, and the defense asked that the entire jury be disqualified because it was composed exclusively of political enemies of the accused, but the judge overruled the motion, and the trial proceeded. It concluded Oct. 26 with the conviction of Powers, and he was again sentenced to imprisonment for life. A motion for a new trial was overruled, and the case will be appealed.

In April Capt. Garnett Ripley was tried on a charge of complicity in the assassination. Evidence was introduced to show that he had said that Gov. Taylor had told him before the shooting to bring a company to the Capitol, and that Goebel would be killed, or something to that effect. Ripley was acquitted.

In November Gov. Durbin, of Indiana, denied the requisition of Gov. Beckham for the return to Kentucky of ex-Gov. Taylor and ex-Secretary of State Finley, as Gov. Mount had done the year before. In his reply he said the trials that had taken place had shown that the two men whose surrender was demanded would not receive a fair trial. (See under INDIANA, in this volume.) Gov. Beckham replied, charging that Gov. Durbin was acting in pursuance of an agreement made before his election.

Lawlessness.—An alleged "Kuklux gang" was captured in Letcher County and put on trial in September for several crimes—murder, highway robbery, and attempts to wreck trains.

This Kuklux gang, it is alleged, is composed of the Reynolds and Wright families, and has been operating in Letcher and Bell Counties several years. The last crime with which they are charged is that of murdering a woman named Wilson in Letcher County. The trial was transferred to Pineville from Whitesburg, the county-seat of Letcher County, on application of the defendants' counsel, made on account of the intense feeling against the accused in that county. There were 13 to be tried. They were engaged in a bloody fight in April with a sheriff's posse at Boonesfork, when several were killed and others were taken.

A riot at Corbin, Jan. 16, resulted in the deaths of two or three persons, the wounding of others, and the destruction of a building by dynamite.

Lynchings were reported this year at Paris, Wickliffe, Shelbyville, and Hodgenville. All the victims were negroes. In the case of 3 hanged at Wickliffe in September, for what crime is not stated, the lynchers were negroes. Carter, hanged in February at Paris, was charged with assault upon a woman; Esters, hanged in October at Hodgenville, was charged with having forced a boy fifteen years old to commit a crime. Fields and Garnett, hanged at Shelbyville Oct. 2, were accused of having stoned a man to death Sept. 21.

The toll-gate raids have been renewed. In June a mob attacked a tollhouse 5 miles from Danville, soaked it with oil, and burned it to the ground.

Unconstitutional Act.—The so-called McCain law was pronounced unconstitutional in December, but an appeal will probably be taken. Under the law the warehouses were subject to fine for charging shippers \$1.50 a barrel and 1 per cent.

commission for selling, the law fixing the rate of charge at \$2 and no percentage commission. Several hundred suits had been filed against the warehousemen, which would have practically forced them out of business had the law been found constitutional.

Penalties ranging from \$25 to \$100 per hog-head are prescribed against all warehouses that do not include the weight of the sample in the selling weight of the hoghead.

On Aug. 11, 1900, the warehouses instituted an action in equity against the various plaintiffs in the common-law actions, and obtained a temporary injunction against them, requiring them to prosecute their actions in this suit upon the ground that all the said actions involved the same questions, and alleging that the statute in question, upon which the actions were based, is contrary to the Constitutions of Kentucky and the United States, for the reason that, as it relates only to tobacco warehouses, it is special legislation and does not give them the equal protection to which they are entitled, and for the further reason that the fees fixed by the statute are so unreasonably small that they can not continue their business, and it is taking their property without due process of law and without compensation.

The court held that so much of the law as attempts to regulate or affect the compensation of tobacco warehousemen must be held to be unconstitutional because they are unreasonable and deprive the warehousemen of the profits of their established business, and the temporary injunction heretofore granted must be made perpetual.

Political.—Elections were held Nov. 5 for members of the Legislature. The official count of the vote shows that the Democrats will have a majority of 60 on joint ballot in the General Assembly, as follows: House of Representatives, Democrats 73, Republicans 27; Senate, Democrats 26, Republicans 12. This Legislature will have the choosing of a successor to United States Senator Deboe.

At a primary election in Caney, Morgan County, in March, a dispute arose over the question of the right of certain persons to cast their ballots. Nearly every man at the polling-place was armed; and as the quarrel progressed, weapons were drawn. The first shot was the signal for a general fight; and when the smoke cleared away 10 wounded men were lying on the ground.

Three men in Bourbon County were held by the United States commissioner to answer charges of conspiracy to hinder negroes from voting at the November election.

A decision was given Nov. 20 by the Court of Appeals in the case of one of the offices in dispute at the time of the Taylor-Goebel contest. The office was that of Attorney-General, and was held by Robert C. Breckinridge against the Republican claimant, C. J. Pratt. The decision of the Republican majority of the court was in favor of Pratt, the 3 Democratic judges dissenting. The contests for the other minor offices were taken to the Court of Appeals, in 1900, and were decided by a political division in favor of the Democratic contestants, that party being then in the majority.

LOUISIANA, a Southern State, admitted to the Union April 30, 1812; area, 48,720 square miles. The population, according to each decennial census since admission, was 152,923 in 1820; 215,739 in 1830; 352,411 in 1840; 517,726 in 1850; 708,002 in 1860; 726,915 in 1870; 939,946 in 1880; 1,118,587 in 1890; and 1,381,625 in 1900. Capital, Baton Rouge.

Government.—The following were the State officers in 1901: Governor, William W. Heard;

Lieutenant-Governor, Albert Estopinal; Secretary of State, John T. Michel; Attorney-General, Walter Guion; Treasurer, Ledoux E. Smith; Auditor, W. S. Frazee; Adjutant-General, Allen Jumel; Commissioner of Agriculture and Immigration, Jordan G. Lee; Superintendent of Education, J. V. Calhoun; Registrar of the Land Office, J. M. Smith; Railroad Commission, C. L. De Fuentes, W. L. Foster, and R. N. Sims till April, when Mr. Sims resigned and was succeeded by Overton Cade; Chief Justice of the Supreme Court, Francis T. Nicholls; Associate Justices, Newton C. Blanchard, Joseph A. Breaux, Frank A. Monroe, and O. O. Provosty, the last-named appointed in March to fill the vacancy caused by the death of Lynn B. Watkins; Clerk, T. M. C. Hyman. All are Democrats.

The term of the State officers is four years. They are elected in April of the years of presidential elections. The Legislature meets biennially in May of the even-numbered years; the length of the session is limited to sixty days.

Census Figures.—Following are additional census statistics for Louisiana from a bulletin of July: Males, 694,733; females, 686,892; native, 1,328,722; foreign, 52,903; white, 729,612; colored, 652,013, of whom 650,804 are negroes, 599 Chinese, 17 Japanese, and 593 Indians. The percentage of colored population is 47.2; of foreign born, 3.8.

The males of voting age number 325,943, of whom 152,538 are native whites. More than 30 per cent. of the males of voting age are illiterate, and about half of the aliens. The males of militia age number 268,739, of whom 132,732 are native whites. There are 538,267 persons of school age, of whom 270,411 are native whites.

In explanation of the comparative decrease of the colored population of the State, a New Orleans correspondent says: "Much legislation against the negro has been placed upon the statute-book. He has been largely disfranchised, shut out from juries, compelled to ride in separate cars on the railroads, and prohibited from marrying either white or Indian. Popular sentiment has gone even further than the law, for he is shut out of hotels. In a number of localities, especially in Grant and Vernon, no negroes are allowed, and the communities are entirely white. But it is doubtful if these acts would have materially affected the population, so far as races are concerned, but for the rapid increase of the Italians and Acadians. The negro population of Louisiana increased 16.2 per cent. in the last decade, which is about normal; but the whites increased 37 per cent."

The percentage of urban population is 25.1.

Valuations.—The Auditor's tabulation of the assessment-rolls of the parishes shows a total for the State of \$301,215,222, an increase in one year of more than \$24,000,000.

Old State Bonds.—The Treasury Department and the authorities of the State are trying to secure a final settlement of the old Louisiana State bonds. These bonds, originally amounting to \$4,476,000, were confiscated by Gen. P. H. Sheridan, at Shreveport, La., on July 12, 1865; but as the capture occurred after the war had officially ended, the National Government has never claimed title to them. From time to time, upon identification by proper State officers, certain certificates have been delivered, until the value of those remaining in the treasury is not now more than \$545,000. It has been found that some of these bonds, amounting to several hundred thousand dollars, for which the national Treasury holds descriptive certificates, are apparently missing from the State treasury.

Education.—The school apportionment, distributed on a basis of a school population of 404,757, amounted in June to \$9,916,541.

The Normal School at Natchitoches is so crowded that at a meeting of business men of the place in October, \$10,000 was advanced by subscription for a new dormitory, the Legislature having made no appropriation. A class of about 20 was graduated in February, and more than 30 in May. The summer normals at Franklin, Shreveport, and Rayville were largely attended.

The State University, at Baton Rouge, had in October nearly 400 students, a number greater than ever before. A local paper says: "The course in sugar agriculture seems to become more popular every year, if we are to judge by the number of students adopting it. It is perhaps the most thorough course in the institution, requiring five years for its completion, and embracing every subject necessary to equip the student for every branch of work connected with the industry. Besides the theoretical work in this course given at Baton Rouge, the students spend the whole of the grinding season at the sugar experiment station at Audubon Park, New Orleans."

At a convention of parish superintendents in October resolutions were adopted advising the people to tax themselves to afford greater educational facilities.

Trouble arose in the State Board of Education in May over the question of the selection of text-books for the ensuing four years. A resolution favored by the Governor was introduced, proposing the appointment of a committee of 3 from the faculties of State educational institutions to examine books offered and report as to their fitness. This was voted down by 6 against 2. The majority objected to yielding up their responsibility, and one of them offered a resolution for the appointment of a committee of 5 members of the board for the purpose. To prevent the passage of this resolution, the mover of the former one called for an adjournment of the board for ten days. The majority of the board promptly voted this proposition down. After this vote the Governor arose and stated that, as the action of the majority indicated a want of unity and harmony in the board, he demanded their resignations. Four members of the 6, who were not *ex officio*, but had been appointed by the Governor, instantly ceased to take part in further proceedings and tendered their resignations. It appears that complaints have been made that the text-books in use were unfair to the South, and that this was the source of the trouble. At a meeting of the Louisiana Confederate Veterans in August, a committee appointed at a former meeting reported a list of books condemned, and recommended the formation of a permanent committee of censors. The following is the list: Eggleston's "First Book in American History" and "History of the United States," Montgomery's "Beginner's American History" and "History of the United States," John L. Wilson's "Story of the War," C. C. Coffin's "Building the Nation," Fiske's "History of the United States," "History of the United States" (Barnes), Field's "Grammar-School History of the United States," Matthews's "Introduction to American Literature," Noble's "Studies in American Literature," Young's "Government Class-Book," "The Children's Third Reader (Ginn & Co.)," "New Century Fourth Reader" (Rand, McNally & Co.), Brumbaugh's "Standard Reader," Williams's "Choice Literature," Book 2 (Sheldon & Co.), "Lights of Literature," Book 4 (Rand, McNally & Co.). The

committee offered resolutions declaring that "no histories or other school-books which may treat of questions involving the respective merits or demerits of the North or South should be taught in Southern schools unless written by one in thorough sympathy and affiliation with the South and its people, and unless intended to be used solely in Southern schools."

Banks.—The condition of the national banks of Louisiana, outside of New Orleans, on July 15 was as follows: Loans and discounts, \$4,926,132.78; overdrafts, \$992,755.40; stock securities, etc., \$1,075,010.39; 5-per-cent. redemption fund with Treasurer, \$585,713.50; total resources, \$9,361,780.85; capital stock paid in, \$1,147,500; surplus fund, \$448,200; undivided profits, less expenses, \$575,859.03; dividends unpaid, \$5,519; individual deposits, \$5,588,029.37; United States deposits, \$50,000; bills payable, \$150,000; average reserve held, 29.11 per cent.

The Convict System.—By the Constitution of 1898 the system of leasing convicts was done away with, and at the expiration of existing contracts they came wholly under the care of the State. The Board of Penitentiary Commissioners bought lands and erected buildings for the housing and care of those convicts who work outside the prison walls, and numbers of the able-bodied prisoners were set to work at raising cotton, food-crops, beef-cattle, and hogs for the support of the persons now undergoing confinement and hard labor. The Legislature placed at the orders of the board \$200,000 for the inauguration of the new system of State control. The total cash income from the State's two plantations this first year was \$180,000. The board will also have several thousand tons of hay, 40,000 bushels of corn, and enough peas and potatoes to carry the stock and men through the next crop year. The mortality among Louisiana's convicts has been reduced 50 per cent.

Railroads.—Authority to reduce rates has been granted the roads in many instances, and the conditions in transportation matters generally have been greatly improved. The work of the commission has been effective, and after three years of existence it finds itself comparatively free from litigation and its orders are promptly obeyed.

The number of formal questions heard and decided by the board since its organization is 196. Every road in Louisiana has been inspected and improvements suggested. There has been a marked improvement in the cleanliness and comfort of local accommodation trains.

In two years and five months the commission ordered 1,050 changes in rates, the majority of these changes being reductions.

Products and Industries.—By the report of Secretary Hester it is seen that the consumption of cotton in the mills of the State during the year amounted to 16,527 bales, an increase of 107 bales. The statistics of the Department of Agriculture estimate the production of Louisiana at 260 pounds of lint-cotton to the acre. By an estimate made in November by Latham, Alexander & Co., from data received from correspondents in the State, the total crop of Louisiana was placed at 755,000 bales, an increase over that of the year preceding.

The Rice Association of America was formed at Crowley, Dec. 11. The objects are declared to be to foster and promote the rice industry, also "to find and secure markets for the sale of all such rice products, to the best advantage of the rice-grower and manufacturer, to encourage the investment of capital in all rice enterprises."

An oyster commission has been appointed, to examine conditions and propose legislation for the encouragement of the industry. When the boundary-line of Mississippi is definitely fixed it is designed to afford such protection that the oyster acreage will be increased and the facilities for handling multiplied. A correspondent says: "The lower coast ships annually 700,000 barrels of oysters to New Orleans and other markets and, with proper amendments to the existing restrictive laws, this annual production of oysters could be increased to 5,000,000 barrels, as the average yield is 300 barrels to the acre."

The preliminary census bulletin on manufacturing industries gives the following figures for Louisiana: Number of establishments, 4,349; capital, \$113,039,564; wage-earners, 42,360; total wages, \$15,359,208; miscellaneous expenses, \$7,996,692; cost of materials used, \$83,161,444; value of products, including custom work and repairing, \$121,099,924.

For New Orleans the figures are: Number of establishments, 1,524; capital, wage-earners, \$46,035,331; average number, 19,663; total wages, \$7,541,710; miscellaneous expenses, \$4,762,093; cost of material used, \$44,248,231; value of products, including custom work and repairing, \$63,492,629.

Southwestern Louisiana shares with southeastern Texas the recently discovered oil-fields. A despatch of Oct. 19 says: "Nearly all the operations in Calcasieu Parish have brought oil to light, most of them at a depth of 250 or 500 feet, but the wells proved to be mere pockets that spouted out what little oil they held in a few hours. The real oil-vein has been struck at a depth of 1,200 feet. The oil itself is somewhat different from the Texan product, being browner and containing more asphaltum. It is more like the oil from southern California. While these facts are convincing, the old Louisiana trouble of quicksands remains."

New Orleans.—By a decision of the Supreme Court in November, the franchise of the Waterworks corporation was declared forfeited. In 1877 the water-supply franchise was owned by the municipality; but the work had been so mismanaged that the franchise was sold to a private corporation for fifty years for what is said to have been a grossly inadequate sum. The ground on which the decision rests is the failure of the company to comply with the conditions, in regard to both the quality and quantity of water supplied, and especially in the rates charged, which since 1883 have been greatly in excess of the franchise limit, the stipulation being that no more should be charged than was paid to the city March 31, 1877.

Statistics of New Orleans of the Department of Labor, September, 1900, show among many others the following:

Debt: Bonded, \$14,293,490; floating, \$263,225; total, \$14,556,715; net debt, \$14,556,715. Legal borrowing limit controlled by legislation. Assessed valuation of property: Real, \$103,000,000; personal, \$38,000,000. Tax rate per \$1,000: State, \$7; city, \$22.

The great floating steel dock, built near Baltimore for the United States naval station at New Orleans, was started on its journey to its destination about Oct. 15, in tow of several tugs, and reached its place about Nov. 6. It will be used to dock the great war-ships of the navy. The cost of the dock was more than \$800,000. It has a lifting capacity of 20,000 tons.

Lake Borgne Canal.—The canal connecting the Mississippi river with Lake Borgne was

opened to commerce in the summer. Including Bayou Dupre, it is 7 miles long and from 150 to 200 feet wide. The lock-chamber is 200 feet long, 50 feet wide, and 25 feet deep, and connects the canal with the Mississippi river. The canal gives New Orleans direct water communication with Mississippi Sound and the great rivers connecting with it, and shortens by 60 miles the distance by direct navigation to the deep water of the Gulf.

With the opening of the canal, the vessels carrying goods for foreign shipment can discharge their cargoes at the wharves of ocean vessels, and steamboats and barges from the river above can pass directly to and from the ports of Mississippi, Alabama, and Florida.

The canal enterprise was first brought forward about 1850, when a bill was passed in Congress for the fortification and protection of Ship island harbor. The first charter was granted in 1855, the second in 1869, and the third in 1884.

Lawlessness.—Lynchings have taken place this year at Dayline, St. Peter, Fenton, Shreveport, Alden Bridge, Rhodessa, Girard, Crowley, and Lake Charles.

The negro at Dayline had attempted to assault a white woman, and in being identified was shot to death.

The crime of the negro at St. Peter was the murder of a family of four, apparently for the purpose of robbery. Two negroes were lynched at Fenton in February. At Shreveport, March 6, a negro was shot to death for assault upon a woman. The negro lynched at Rhodessa—by a mob of negroes, it was supposed—confessed to having assaulted a little colored girl. The one hanged by a mob at Alden Bridge kept a negro gambling-house and had been ordered to leave, but refused.

John G. Foster, a planter living 5 miles east of Shreveport, was shot and killed, from a cabin, June 12, by Prince Edwards, a negro employed on the plantation. There were a dozen or more negroes in the cabin and they ran in all directions. The overseers were quickly joined by other men, and all the negroes were arrested, except Prince Edwards, who did the shooting. On June 19, two of the suspected negroes were taken from jail at Shreveport by a mob and hanged. They were "Prophet" Smith and F. D. McLand. Both denied that they had anything to do with the killing. Smith was the head of the "Church of God" movement in that section.

After the shooting of Foster, a search of Smith's rooms revealed a so-called Ark of the Covenant. It was a rudely constructed box, bearing within and without mystic symbols. When the officials laid hold of the box the negroes were panic-stricken. Further search revealed the minutes of the meeting of the society. Its members were denominated as princes and Smith as king.

At Crowley, July 19, an officer accosted a negro to learn his business. The negro fired upon the officer and then fled. He was caught and taken to jail, where a mob took him from the officers and lynched him.

At Herndon plantation, Nov. 23, about 8 miles below Shreveport, a negro, Frank Thomas, shot and killed a fourteen-year-old negro boy named Wilburn for a debt of 30 cents. In the morning a deputy sheriff arrested the murderer and was proceeding toward Shreveport when a mob of 200 negroes and 5 or 6 white men suddenly appeared, took possession of Thomas and hanged him on a tree.

At Lake Charles a negro was hanged in the center of the business portion of the city, at four o'clock on the morning of Dec. 7, by a mob of

about 50 citizens, for an attack upon a deputy sheriff and his wife.

At Balltown, in Washington Parish, a negro was burned for an assault upon a white woman. This was shortly followed by a riot, and though it was not the immediate cause. The riot arose over the attempt of a constable to arrest a negro who was running a refreshment stand at a camp-meeting without a license. In the riot that ensued two of the sheriff's posse were killed and another was badly wounded, and 9 negroes were killed—5 men, 3 women, and 1 small child. The accounts place the number of negroes dead at 13. A dozen or more negroes escaped to the woods and swamps with wounds that were believed to be mortal.

The State Constitution.—In the case of a criminal sentenced to be hanged in February, an appeal was taken to the United States Supreme Court on several points of error. The one most relied on was that the Constitution of Louisiana was void and of no effect, by reason of not having been referred to and ratified by the people of the State, and for a variety of other allegations as to its supposed insufficiency. The appeal failed, and the decision is regarded so far as a vindication of the validity of the Constitution.

In July a suit was filed to test the validity of the suffrage clause. It was a mandamus proceeding in behalf of a poor and illiterate negro, who had been a registered voter about thirty years; but in 1901 was refused registration under the provisions of the new Constitution. The mandamus was asked on the ground that the State Constitution's provisions on suffrage were unlawful, because they were in violation of the fifteenth amendment to the Federal Constitution. The suit failed because there is no question of the constitutionality of an educational qualification for voters, and the negro was illiterate.

MAINE, a New England State, admitted to the Union March 15, 1820; area, 33,040 square miles. The population, according to each decennial census since admission, was 298,269 in 1820; 399,455 in 1830; 501,793 in 1840; 583,169 in 1850; 628,278 in 1860; 626,915 in 1870; 648,936 in 1880; 661,086 in 1890; and 694,466 in 1900. Capital, Augusta.

Government.—The following were the State officers in 1901: Governor, John F. Hill; Secretary of State, Byron Boyd; Treasurer, Oramandal Smith; Attorney-General, George M. Seiders; Superintendent of Education, W. W. Stetson; Adjutant-General, John T. Richards, who resigned and was succeeded Dec. 1 by Augustus B. Farnham; Commissioner of Labor and Industrial Statistics, Samuel W. Matthews; Bank Examiner, F. E. Timberlake; Insurance Commissioner, S. W. Carr; Liquor Commissioner, James W. Wakefield; Commissioner of Sea and Shore Fisheries, Alonzo R. Nickerson; Railroad Commissioners, Joseph B. Peaks, Benjamin F. Chadbourne, Parker Spofford; Librarian, Leonard D. Carver; Land Agent and Forest Commissioner, Charles E. Oak, resigned and succeeded, Aug. 1, by Edgar E. Ring; Secretary State Board of Agriculture, B. W. McKeen; Registrar of Vital Statistics, A. G. Young; Assessors, George Pottle, Otis Hayford, F. M. Simpson; Superintendent of Public Buildings, E. C. Stevens; Factory Inspector, Charles E. Atwood; Commissioners of Inland Fisheries and Game, Leroy T. Carleton, Henry O. Stanley, Charles E. Oak; Chief Justice of the Supreme Court, Andrew P. Wiswell; Associate Justices, Lucilus A. Emery, William H. Fogler, W. P. Whitehouse, Sewall C. Strout, Albert R. Savage, Frederick A. Powers, Henry C. Peabody;

Clerk, W. S. Choate. All are Republicans except Justice Strout.

The term of the State officers is two years. The State election takes place on the second Monday in September of the even-numbered years. The Legislature meets biennially the first Wednesday in January in the odd-numbered years. The session is not limited.

Census Returns.—A bulletin of the Census Bureau gives the following figures for Maine: Males, 350,995; females, 343,471; natives, 601,136; foreign, 93,330; whites, 692,226; colored, 2,240, including 1,319 negroes, 119 Chinese, 4 Japanese, and 798 Indians. The percentage of urban population is 36.2.

Finances.—The regular reports of the Treasurer are made to the Legislature, and a summary of that for the biennium that closed at the beginning of the year will be found in the Annual Cyclopaedia for 1900. The Legislature this year adopted measures for increasing the revenue by special franchise taxes, increasing the rates for corporations, etc. The State tax levied at present is $2\frac{3}{4}$ mills, yielding from cities, towns, and organized plantations \$927,725. The State expenses average nearly \$2,000,000 annually. On account of the school tax, about \$665,000 was paid back to cities and towns in 1901; of the 422 towns and 79 plantations, 245 receive more than they pay into the State treasury. The increase by reason of the additional taxes on corporations amounted to about \$300,000. The steam railroads pay more than \$300,000 annually as their franchise tax. In addition, they are taxed on all their buildings, lands, and fixtures outside of their located right of way in each city and town in which these are located, as other property is taxed therein. The savings-banks pay a tax of $\frac{1}{4}$ and $\frac{1}{2}$ of 1 per cent. on all their deposits, $\frac{1}{4}$ of 1 per cent. on all deposits invested in securities beyond the limits of the State, and $\frac{1}{2}$ of 1 per cent. on their deposits invested in securities within the limits of the State. The total as assessed for the year was \$500,733.42. That on trust and banking companies was \$22,513.80. The telephone companies were taxed this year \$14,210, against \$11,020 in 1900. Telegraph and telephone companies whose receipts are under \$1,000 are not taxed. The minimum tax on general corporations is \$5; on a capital of \$1,000,000 it is \$50. The total receipts from corporation organizations and franchise taxes was about \$92,000. The Treasurer received, Nov. 1, \$20,154 for dog licenses; from this claims for damage to domestic animals are paid. The bounties on wild animals are abolished.

The State had claims against the Government on account of expenditures for the Spanish War amounting to \$87,434.80. Of this, \$34,675.70 was disallowed and suspended. The remainder is paid.

Valuations.—The valuation of the State has increased in eleven years from \$255,000,000 to about \$300,000,000. Penobscot and Arrostook Counties have made large gains, the former having increased in valuation \$901,000 in one year.

Education.—The total amount of the school fund and mill tax for 1901 was \$562,162.18, an increase over that of 1900, caused by the increase in the tax received from savings-banks (one-half of which goes to schools) and by the growth in the valuation of the State, the schools receiving as a mill tax 1 mill on every dollar of valuation.

The total number of pupils in the State is 211,834, an increase of 1,391 over last year, which gives \$2.65 to each pupil.

The graduating class at the Farmington Normal School in June numbered 44. The Castine Normal School opened with 130 in September.

At the State University, at Orono, 369 students were in attendance in May, of whom 297 were in the regular classes, 13 were specials, 22 in a short course in agriculture, and 37 in the law school. The faculty and staff numbered 56. A class of 41 was graduated in June. The university received this year \$25,000 from the Government, not including what was given for the experiment station.

Bowdoin College graduated 57 in June. At the opening of the one hundred and seventh year of the college, in September, more than 70 were registered in the entering class. Gen. Thomas H. Hubbard, of New York, has given \$250,000 for a new library building, which is in process of construction.

The enrolment at Bates College, Lewiston, in December, was 293, of whom 92 were freshmen—the largest class ever entered. Four instructors have been added to the faculty this year.

At Colby College, Waterville, 32 were graduated, of whom 6 were women. The question of continuing to receive girls at the college was thoroughly and warmly discussed at the meeting of the alumni association. Four petitions had been afloat among the graduates, and were numerous signed by adherents of the two sides. A motion was finally carried that it was the belief of the association that the college should be divided, and one for men and one for women be established whenever practicable.

The Maine Wesleyan Seminary and Female College, at Kent's Hill, has, it appears, been divided into two separate institutions. The seminary continues as before for those who do not take a full college course, for preparatory work, and with special departments for music, art, normal instruction, and business courses, and is open to both sexes.

The annual report of the library commission shows that 17 new traveling libraries, each of 50 volumes, have been added to the 42 purchased last year. Of these, 56 reported, showing a recorded circulation of 8,823, and 1,780 registered readers.

In the year free public libraries were established at Fairfield, Hiram, Jonesport, Sanford, Norridgewock, Buckfield, and Stetson. At Fairfield, a handsome library building, the gift of Edward J. Lawrence, was dedicated July 24.

Vital Statistics.—The Registrar finds difficulty in obtaining returns for his reports, and that for 1899 was published only in October, 1901. The births that year decreased by 646, compared with 1898, the marriages increased by 185, and the deaths increased by 414.

The birth-rate of living children in the State was 20.10 for every 1,000 inhabitants. In the cities the rate was 21.03, and in the country 19.66.

The number of marriages registered in the year was 5,229. In 1898 the number was 5,144.

The number of divorces granted was 790. In the previous year there were 764.

The deaths by accident numbered 374, and those by suicide 93.

There were 9 homicides.

Charities and Corrections.—The report of the Girls' Industrial School shows that in the year 4 girls were admitted, 11 came of age, 5 were permitted to marry, 5 were discharged, and 149 remained. The expenditures for the year were \$11,119.44, and the receipts \$13,930.52.

The Reform School for Boys had about 150 inmates at the beginning of the year.

There were 172 convicts in the State Prison Nov. 30, 1900. Thirty-eight life convicts were present at the beginning of the year, 4 of whom

were women. Four were pardoned in 1901, and 2 died, while 4 more were committed, leaving 36 at the beginning of 1902. The gain from goods manufactured during the year was \$5,937.74, and the expenditures amounted to \$16,136.59.

The new insane hospital at Bangor was finished this year, and 145 patients were transferred to it in July from the Augusta hospital, which has been overcrowded. The average number of patients there in 1900 was 763; there were 107 deaths in one year.

An electric road has been built from Augusta to Togus, the site of the eastern branch of the National Soldiers' Home. One hundred and thirty acres of land have been bought, and the reservation now contains 1,884 acres. The membership for the year was 2,764, an increase of 44.

Militia.—The annual encampment of the State Guard was held the third and fourth weeks of August. The Government appropriation for Maine was \$12,745.

Old Home Week.—The second annual Old Home Week, Aug. 11-17, was observed with reunions in many towns, and in some with local celebrations. Dexter and Leeds celebrated the centennial anniversaries of the settlement of the towns. There were elaborate celebrations also in Portland, Belfast, Waterville, and other places.

Banks.—Following is a summary of the reported condition of the 51 savings-banks in the State June 29: Number of depositors, 196,583; average rate of dividends paid (approximate), 0.0332; amount of dividends paid during the year, \$2,272,774.35; checks and other cash items, \$77,833; gold coin, \$27,872.65; gold certificates, \$6,320; silver coin, \$8,240.99; silver certificates, \$29,806; legal tenders, \$20,163.22; national-bank notes, \$50,753; total cash on hand, \$220,988.86. The liabilities of the savings-banks amount to \$73,420,236.94, and are divided as follow: Deposits, \$69,533,057.70; reserve fund, \$2,396,772.44; special reserve fund, \$21,832.64; profits, \$1,440,375.74; other liabilities, \$28,198.42.

For the 17 trust and banking companies the figures are: Total cash on hand, \$281,673.60; number of depositors, 15,344; amount of dividends paid on capital stock, \$77,740; checks and other cash items, \$60,364.66; gold coin, \$26,241.35; gold certificates, \$3,680; silver coin, \$15,877.98; silver certificates, \$50,414; legal tender, \$31,910.28; national-bank notes, \$56,081; unclassified cash, \$37,104.33. The liabilities of the trust and banking companies amount to \$14,653,598.76.

The 84 national banks had, Sept. 30, resources amounting to \$47,633,680; individual deposits amounted to \$23,468,533.95. The average reserve held was 28.41 per cent.

Railroads.—Twenty-one railroad corporations, located wholly or in part in Maine, whose roads are operated by steam, and 21 street-railways whose roads are operated, with one exception, by electricity, made their returns for the year ending June 30, 1901. At the beginning of that year there were 1,905 miles of steam railroad in the State, and 13.98 miles were added in the year. The gross earnings in Maine for the year ending June 30, 1901, were \$10,930,002.86, against \$10,008,502.50 in 1900. The number of passengers carried in Maine in the year ending June 30, 1901, was 6,171,014, against 5,417,759 in 1900. The number of tons of freight hauled in Maine for the corresponding year, 1901, was 8,387,688, against 7,681,808 in 1900. There were employed upon the steam railroads, as nearly as can be ascertained, 7,573 persons, including general officers, an increase over 1900 of 333.

The total street-railway mileage was 270.51,

an increase of 17.02 miles. The gross earnings for the year ending June 30, 1901, aggregated \$1,302,738.87, an increase of \$88,893.58 over 1900. The net earnings aggregated \$467,765.39, a gain of \$67,765.39. Five persons were killed and 6 injured, against 31 injured in 1900.

Industries and Products.—The State was the most prosperous ever known for the ship-building industry. Bath, the first New England city in this particular, launched 26 merchant vessels, with a tonnage of 30,065 tons, and 2 Government vessels, with a displacement of 3,367 tons. The industry has flourished also in Waldoboro, Belfast, Castine, Machias, and other districts. The total tonnage of documented vessels launched this year, not including the Government ships, is 42,631.

A census bulletin on the manufacture of paper and pulp credits Maine with 35 active establishments, with a capital of \$17,473,160, employing 4,851 persons and turning out a product valued at \$13,223,275. The census figures were of June, 1900, before the great mills at Millinocket or the enlargements at Rumford Falls, Madison, and elsewhere were in operation.

The sales of liquor by the State commissioner about doubled this year. His sales amounted to \$68,860. More than half, \$34,869, went to the city of Portland.

The number of cases of sardines packed in 1901 was 1,396,902; in 1900 it was 815,000.

The number of lobsters caught in State waters in 1901 was 7,990,265. In 1900 the catch was 8,232,115.

The number of deer taken in the State during the year was estimated at 25,000. According to records kept in Bangor, 200 bull moose had been killed when there still remained two weeks of the open season. The number in 1900 was 137.

Legislative Session.—The session of the Legislature began Jan. 2 and ended March 22. Politically it stood on joint ballot 162 Republicans to 20 Democrats, only 1 Democrat having been elected to the Senate.

Hannibal E. Hamlin was President of the Senate and Joseph H. Manley was Speaker of the House.

The following State officers were elected: Secretary of State, Byron Boyd; Treasurer, Oramandal Smith; Attorney-General, George M. Seiders; Assessor, for six years, F. M. Simpson; Printer, Clarence B. Burleigh; Binder, H. E. Smith; Executive Councilors, C. H. Prescott, C. S. Cook, M. C. Wedgewood, W. T. Haines, E. E. Chase, H. W. Mayo, D. A. H. Powers—each for two years except the Assessor.

United States Senator William P. Frye was renominated by acclamation in the Republican joint caucus, and was elected for the term ending in 1907.

Gov.-Elect John F. Hill was inaugurated Jan. 3. He reappointed most of the appointive State officials whose terms expired.

Eight bills were passed for increasing the State revenue. They raised the rate of taxation on steam railways, street-railways, telegraph and telephone companies, express companies, sleeping- and palace-car companies, corporations organized under the general law and not otherwise taxed, trust and banking companies, and collateral inheritances.

Heretofore the telegraph and telephone companies have been assessed on the valuation of the property as returned to the State. By the new law the taxes will be levied on the gross receipts in the State. Sleeping- and palace-car companies are to pay 4 per cent. on the earnings of their

cars on business done wholly within the State. The collateral inheritance tax was raised from 2½ to 4 per cent.

The State Board of Agriculture was abolished, and the office of Commissioner of Agriculture was created. The incumbent is to be elected by the Legislature for two years, and to receive a salary of \$1,500. The Legislature elected A. W. Gilman the first Commissioner of Agriculture, his term to begin Jan. 1, 1902. For the farmers' institutes \$3,000 was appropriated.

An act to establish a State flag provides that the flag "shall be buff, charged with the emblem of the State, a pine-tree proper, in the center, and the polar star, a mullet of five points, in blue in the upper corner; the star to be equidistant from the hoist and the upper border of the flag, the distance from the two borders to the center of the star being equal to about one-fourth of the hoist.

So many persons are killed every year by hunters who mistake them for game that an act was passed providing that any one wounding or killing any human being in this way shall be punished by imprisonment for not more than ten years or by fine of not more than \$1,000; and any county attorney or sheriff failing to investigate and prosecute in such a case is liable to a fine of not over \$1,000 and removal from office. This law seems to have failed of its purpose, since the number of such accidents increased in 1901.

Many new provisions were added to the game-laws, and acts were passed relating to hunting and fishing in special localities.

The acts for the schooling of children in unorganized townships, and for the conveyance of pupils, were amended, as was also the act on traveling libraries; and the truancy law was made more stringent.

The penalty for leaving camp-fires in woods unextinguished was reduced from \$100 to \$50, and a provision was added that half the fine should go to the complainant.

The appropriations were somewhat larger than those for the preceding period, amounting to \$4,544,501.88.

Efforts to have the prohibition question resubmitted were unsuccessful.

Other acts and resolves were:

Providing for voting by machines.

For improvement of State roads.

For taxing interest-bearing deposits in trust and banking companies.

Fixing the salaries of justices of the Supreme Court at \$4,000.

Authorizing cities and towns to establish manual-training schools.

Providing for topographical and geological surveys.

For the revision and consolidation of the public laws.

Authorizing the representation of the State at the Louisiana Purchase Exposition.

Appropriating \$1,500 each year as a fund for the detection and arrest of criminals.

Prescribing a penalty of fine not exceeding \$500 or imprisonment not exceeding one year, or both, for delivering false or libelous statements to any periodical and securing their publication.

Authorizing the Androscoggin Railroad Company to convey its interests to the Maine Central Company.

Amending the law of 1887 to abolish imprisonment for debt except in case of fraud.

To secure the preservation of testimony given in trials for murder.

For the assessment of a State tax for 1901

amounting to \$927,725.94, and an equal amount for 1902.

Making appropriations for the Penobscot and Passamaquoddy tribes of Indians.

Authorizing the compilation of the laws on sea and shore fisheries; also of the insurance laws.

MARYLAND, a Middle Atlantic State, one of the original thirteen, ratified the Constitution April 28, 1788; area, 12,210 square miles. The population, according to each decennial census, was 317,728 in 1790; 341,548 in 1800; 380,546 in 1810; 407,350 in 1820; 447,040 in 1830; 470,019 in 1840; 583,034 in 1850; 687,049 in 1860; 780,894 in 1870; 934,945 in 1880; 1,042,390 in 1890; and 1,188,044 in 1900. Capital, Annapolis.

Government.—The following were the State officers during the year: Governor, J. Walter Smith; Secretary of State, Wilfred Bateman; Comptroller, Joshua W. Hering; Treasurer, Murray Vandiver; Adjutant-General, John S. Saunders; Attorney-General, Isidor Rayner; Superintendent of Education, M. Bates Stephens; Commissioner of Insurance, Lloyd Wilkinson; Commissioner of Public Lands, E. Stanley Toadvin—all Democrats; Chief Judge of the Court of Appeals, James McSherry; Associate Judges, David Fowler, A. Hunter Boyd, Henry Page, I. Thomas Jones, John B. Briscoe, Samuel D. Schmucker, and James A. Pearce; Clerk, Allan Rutherford—all Democrats except Schmucker and Rutherford, Republicans.

The term of the State officers is four years; they are elected in November of the years preceding the presidential elections, and take office the next January. The sessions of the Legislature are biennial, beginning in January of odd-numbered years, and are limited to ninety days.

Population.—Charges having been brought that the Federal census figures of 1900 had been padded in some of the southern Maryland counties, a new census was taken in 3 of the counties, which resulted in a reduction of the figures originally given. A census was also taken by the State government. The following is the population of the State by counties, according to the State census of 1901: Allegany, 53,304; Anne Arundel, 34,791; Baltimore, 88,028; Baltimore city, 517,035; Calvert, 9,963; Caroline, 16,792; Carroll, 33,651; Cecil, 24,450; Charles, 16,602; Dorchester, 28,293; Frederick, 51,639; Garrett, 17,386; Harford, 28,307; Howard, 16,276; Kent, 17,788; Montgomery, 29,155; Prince George, 28,325; Queen Anne, 18,586; St. Mary, 16,890; Somerset, 25,628; Talbot, 20,314; Washington, 44,491; Wicomico, 22,908; Worcester, 20,805; total, 1,181,691.

Finances.—The amount received into the State treasury proper during the fiscal year ending Sept. 30, 1901, was \$3,243,154.12. This, together with \$849,885.16 in the treasury proper Sept. 30, 1900, and \$229,589.14 to the credit of the fund's account, makes a total of \$4,392,628.42. The revenue in the fiscal year was \$3,043,154.12. There was a large increase in the tax on gross receipts of corporations. There was received from this source \$361,125.75, against \$275,240.98 of the previous year. This amount, however, was not the result of an increase in the usual tax for 1901, but represents the accumulated taxes for several years of various railroad companies. Payment was resisted by the companies, but a compromise was eventually agreed upon.

The disbursements for the year aggregated \$3,120,626.37, being \$359,907.89 less than in the previous year, notwithstanding the fact that a much larger sum (\$110,356.98) was carried to the sinking-funds. The balance in the treasury proper

at the close of the fiscal year was \$972,412.91. The cash available to the ordinary expenses of the Government is only \$521,787.57.

There was received into the sinking-fund during the year \$633,972.60.

Of the actual receipts this year, \$33,972.60 represents the increment from investments, while the remainder is the amount of the actual cash transferred from the treasury proper to the funds' account, a sum largely in excess of the constitutional requirement to maintain the integrity of these funds.

The Oyster Navy, which had been showing a deficiency for several years, was more than self-sustaining this year, under the law passed in 1900. The balance to the credit of the fund Sept. 30, 1900, was \$5,365.74, which, added to the receipts of the year, amounting to \$74,974.32, aggregated \$80,340.06, leaving a balance of this fund Sept. 30, 1901, of \$20,471.49, against \$5,365.74 at the close of the previous fiscal year.

The funded debt of the State at the close of the fiscal year was \$6,509,326.13, an increase of \$200,000 over the year previous. The net debt of the State is \$2,662,344.29, which is an actual reduction since Jan. 1, 1900, of \$225,698.66.

The assessed value of property for State purposes aggregates \$643,812,408, an increase of \$27,092,626.

The receipts during the year on account of the public-school tax were \$727,314.41, which, added to the balance on hand, made \$1,077,270.48. There was disbursed during the year among the counties and Baltimore city \$720,455.85, leaving a balance on hand Oct. 1, 1901, of \$356,814.63, against \$349,956.07 for the same period of the previous year.

The receipts on account of the free-book fund were \$138,455.08, while the disbursements aggregated \$153,532.74.

The gross receipts of the State tobacco warehouses were \$79,223.62, while the disbursements were \$77,531.20.

National Banks.—There were in Maryland on Dec. 10, 1901, 78 national banks. Their aggregate resources were \$101,639,451.96; capital stock paid in, \$16,410,960; surplus fund, \$7,376,459.09; undivided profits, \$3,227,466.95; national-bank notes outstanding, \$5,944,705; loans and discounts, \$56,982,904.49; United States bonds to secure circulation, \$6,041,250; United States bonds to secure deposits, \$12,628,500; stocks, securities, judgments, and claims, \$8,022,264.96.

Industries.—There are 9,880 establishments in Maryland having \$163,422,260 invested in manufacturing and mechanical industries. The gross value of the products is returned at \$242,752,990, to produce which involved an outlay of \$7,383,263 for salaries of officials, clerks, etc.; \$38,761,551 for wages; \$17,226,623 for miscellaneous expenses; and \$144,539,680 for materials used.

Although Maryland is not preeminently a manufacturing State, there has been a steady growth in its manufacturing and mechanical industries during the half century. The population in these years increased from 583,034 to 1,188,044, or 103.8 per cent.; while the average number of wage-earners employed in manufacturing establishments increased from 30,212 to 108,361, or 258.7 per cent., embracing in 1900 9.1 per cent. of the entire population, compared with 5.2 per cent. in 1850.

The principal industries of the State are fertilizers, flouring and grist-mill products, foundry and machine-shop products, canning and preserving of fruits and vegetables, furniture, iron

and steel, lumber and timber products, planing-mill products, oyster-canning and preserving, slaughtering, textiles, and tobacco. These industries in the census year embraced 1,817 establishments, used a capital of \$44,990, gave employment to 37,241 wage-earners, and paid \$12,522,561 in wages. The value of their products was \$86,343,509.

The canning and preserving of fruits and vegetables is the most important industry in the State. The 271 establishments reported in 1900 gave employment to 7,505 wage-earners, and their products were valued at \$11,996,245. The increase in the value of the products during the decade was \$4,800,136.

Nine establishments were engaged in the manufacture of iron and steel in 1900, the industry second in rank, with 2,138 wage-earners, and products valued at \$8,739,405. Iron ore was marketed abroad, shipments being made to Asia, Africa, Australia, and England. The manufacture of foundry and machine-shop products ranks third among the industries of the State, with 113 establishments, 4,695 wage-earners, and products valued at \$8,443,547. There were 407 establishments engaged in the manufacture of flouring and grist-mill products in 1900, with 541 wage-earners, and products valued at \$8,035,343. Five establishments were engaged in the manufacture of chewing and smoking tobacco and snuff, with 2,002 wage-earners, and products valued at \$7,054,159. There were 382 establishments engaged in the manufacture of cigars and cigarettes, with 2,309 wage-earners, and products valued at \$2,842,769. There were 40 establishments engaged in the manufacture of fertilizers, with 1,016 wage-earners, and products valued at \$5,481,905. There were 14 establishments engaged in the manufacture of cotton-goods, with 4,727 wage-earners, and products valued at \$5,423,251. There were 53 establishments engaged in the manufacture of planing-mill products, with 1,323 wage-earners, and products valued at \$3,753,083. There were 4 establishments engaged in iron and steel ship-building, with 1,939 wage-earners, and products valued at \$3,299,491. There were 43 establishments engaged in wooden ship and boat building, with 676 wage-earners, and products valued at \$862,034. There were 42 establishments engaged in the manufacture of furniture in 1900, with 1,869 wage-earners, and products valued at \$2,976,494. There were 367 establishments engaged in the manufacture of lumber and timber, with 1,964 wage-earners, and products valued at \$2,650,082. There were 21 establishments engaged in the manufacture of paper and wood pulp, with 937 wage-earners, and products valued at \$2,589,540. There were 16 establishments engaged in the canning and preserving of oysters, with 1,444 wage-earners, and products valued at \$2,417,331. There were 1,199 clothing establishments, with a total capital of \$11,315,088; total wages paid, \$4,799,716; value of products, \$24,501,636.

In the manufacture of the cheaper grade of shirts, Maryland ranks second. There are 26 establishments engaged in the manufacture of distilled liquors, with a capital invested of \$2,326,272, and an output valued at \$1,616,362. For malt liquors there are 16 establishments, with an invested capital of \$13,857,323, and an output valued at \$4,133,797.

Farms.—The number of farms in the State is 46,012. They contain 5,170,075 acres, of which 3,516,352 are improved. The land is valued at \$120,376,550, the buildings at \$54,810,760, implements and machinery at \$8,611,220, and live stock at \$20,855,857. The expenditures in the

year are estimated for labor, \$5,715,520; for fertilizers, \$2,618,890.

Floating Steel Dry Dock.—The Maryland Steel Company, at Sparrows Point, completed and on Oct. 15, 1901, started down for Algiers, La., the large steel dry dock for the Government, the contract being \$810,000. The voyage of 2,000 miles was attended with great danger, but the great dock, towed by powerful seagoing tugs, reached the Government station safely. The dock has been tested, and it met all requirements. The new battle-ship Illinois was used for the test, and was easily floated. The dock also showed her ability to dock herself for cleaning and painting.

Johns Hopkins University.—On Feb. 22, 1901, Dr. Daniel C. Gilman tendered his resignation as president of Johns Hopkins University, having rounded out the seventieth year of his life and a quarter of a century as the head of the institution, which began its career under his guidance in 1876. Prof. Ira Remsen, who had been at the head of the department of chemistry, was elected to succeed him. Recently William Keyser, William Wyman, and several other citizens of Maryland made a gift to the university of a piece of ground valued at \$1,000,000, on the condition that the university raise another million for erecting and maintaining the necessary buildings on it.

Monument to Columbus.—While it is generally known that the first monument to George Washington was erected in Baltimore by the State of Maryland, few are aware that the first shaft in this country dedicated to the memory of Christopher Columbus is also there. In the grounds of the Samuel Ready Asylum, on North Avenue, stands a modest memorial, erected by a Frenchman, Charles Francis Adrian le Paulmier, Chevalier d'Amour. The chevalier was the first consul-general in Maryland. The monument was for nearly thirty years the only Columbus memorial in the New World, and for more than fifty years the only one in the United States. There was a question whether the shaft was really a monument to the discoverer of America, or a memorial erected by Zenus Barnum (who subsequently became possessed of the chevalier's estate) to a pet horse bearing the same name. An investigation made by Johns Hopkinsians has produced historical data to substantiate the statement that the enthusiastic Frenchman followed up the suggestion, made at a public dinner, to erect the first monument in this country to its discoverer. Until recently the monument was hidden in an obscure place on the estate that is the home of one of the most noteworthy charities of Baltimore, but it now occupies a conspicuous position exposed to the view of all who pass the institution. It is an obelisk 44 feet 4 inches high, made of stuccoed brick. The base is 6½ feet square and the top 2½ feet square. The base is 2½ feet high, with rounded corners of molded brickwork. The pedestal proper is 5½ feet square and 10 feet in height, and is surmounted by a capstone 1½ feet high. On the west side of the pedestal is a marble slab 2½ feet by 4 feet, upon which is the following inscription: "Sacred to the memory of Chris Columbus, Oct. XII, MDCCVIII."

Legislative Session.—Gov. Smith, on Feb. 13, 1901, called the General Assembly of Maryland to meet in special session on March 6. The reasons set forth for the call were: That errors in the enumeration by the United States census of the population of this State, if not corrected by an enumeration under State authority, would give to some sections of the State a disproportionate representation in the House of Delegates.

That there was urgent need for legislation to reform "manifest and great abuses in the election law of this State." That there was a demand from the mayor and city council of Baltimore for additional power in connection with sewerage of the city and the preservation of its sanitary condition.

The Legislature, having a Democratic majority, carried out the party program and adopted a ballot-law similar to the one in Massachusetts. Its effect is practically to require an educational qualification for suffrage, which was not necessary under the old law. Party emblems, which under the old law were as sign-posts to the illiterate voter, were abolished, and the voter is now required to make a mark beside the name of each candidate for whom he desires to vote. The names of the various candidates are arranged alphabetically according to surname, under the designation of the office. Assistance from clerks, which illiterates heretofore enjoyed, was abolished, only the blind and those physically disabled being now entitled to clerical assistance. A ballot is entirely invalidated if, under the designation of any office, the voter has marked more names than there are persons to be elected for that office. It is also invalidated if there is a mark of any kind on the ballot other than the cross-marks called for by the law. Many Marylanders holding office in Washington are cut off from voting by the section which provides that persons who have taken up a residence outside of the State will be conclusively presumed to have surrendered their right to registration as legal voters in this State unless within thirty days after the passage of the law they make affidavit that they did not so intend, and that they expected to resume actual residence in Maryland six months before the next general election.

The Legislature also passed a law for the enumeration of the population of the State, which was done under the direction of Buchanan Schley. The figures were reported to the Governor, who made the result known by proclamation issued July 23, 1901, and reapportioned the representation in the House of Delegates in accordance with the result. Under the national census of 1900, the total membership of the House of Delegates was 91. The State census of 1901 increases this membership to 95, giving an additional delegate to each of the following counties: Dorchester, Montgomery, Prince George, and Washington.

Political.—At the elections held on Nov. 5, 1901, the people of Maryland voted for a State Comptroller and clerk of the Court of Appeals, besides members of the Legislature and city and county officials. The result was that Dr. J. W. Hering, Democrat, was reelected Comptroller, defeating Herman S. Platt, Republican, by a plurality of 121, the total vote being Hering 96,477, Platt 96,356. For clerk of the Court of Appeals, Thomas Parran, Republican, defeated J. Frank Turner by a plurality of 1,389, Parran's vote being 96,658 and Turner's 95,269.

The chief interest in the Election Day is the Legislature, which is to elect a successor to George L. Wellington in the United States Senate. Former Senator Gorman is the only Democratic candidate for the office, and as the Democrats have a majority in both houses, there is no reasonable doubt of his election at the coming session.

MASSACHUSETTS, a New England State, one of the original thirteen, ratified the Constitution Feb. 6, 1788; area, 8,315 square miles. The population, according to each decennial census, was 378,787 in 1790; 422,845 in 1800; 472,040

in 1810; 523,159 in 1820; 610,408 in 1830; 737,699 in 1840; 994,514 in 1850; 1,231,066 in 1860; 1,457,351 in 1870; 1,783,085 in 1880; 2,238,943 in 1890; and 2,805,346 in 1900. Capital, Boston.

Government.—The following were the State officers in 1901: Governor, Winthrop Murray Crane; Lieutenant-Governor, John L. Bates; Secretary of State, William M. Olin; Treasurer, Edward S. Bradford; Auditor, Henry E. Turner; Attorney-General, Hosea M. Knowlton; Insurance Commissioner, Frederic L. Cutting; Prison Commission, F. G. Pettigrove, Margaret P. Russell, Henry Parkman, Mary V. O'Callaghan, Arthur H. Wellman; Chief of the Bureau of Labor Statistics, Horace G. Wadlin; Savings-Bank Commissioner, Warren E. Locke; Adjutant-General, Samuel Dalton; Secretary of the Board of Education, Frank A. Hill; Secretary of the Board of Agriculture, James W. Stockwell; Chief Justice of the Supreme Court, Oliver W. Holmes; Associate Justices, Marcus P. Knowlton, James M. Morton, John Lathrop, James M. Barker, John W. Hammond, and William C. Loring; Clerk, Henry A. Clapp.

The term of the State officers is one year. They are elected in November. The Legislature meets annually on the first Wednesday in January; the time of the session is not limited.

Census Figures.—Following are additional figures from census bulletins: Males in Massachusetts, 1,367,474; females, 1,437,872; native, 1,959,022; foreign born, 846,324; white, 2,769,764; colored, 35,582, including 31,974 negroes, 2,968 Chinese, 53 Japanese, and 587 Indians. The percentage of colored population is 1.3; of foreign born, 30.2. In Boston there are 274,922 males and 285,970 females, and 197,219 foreign born. The urban population constitutes 86.9 per cent. of the population.

Finances.—The Auditor's estimate of the amount of expenditures required for 1902 for all the departments is \$6,376,242.60. The actual State debt is \$26,996,423.30; the sinking-funds applicable to the debt amount to \$15,292,256.85.

Military.—In the militia apportionment of the Government, Massachusetts received this year \$31,862. The force consists of about 6,000 officers and men, in 5 regiments of infantry, 1 of heavy artillery, 2 cadet corps, 3 troops of cavalry, and an artillery battalion, besides a naval brigade in 10 divisions.

On Dec. 19 a monument was dedicated at Andersonville, Ga., to the memory of the Massachusetts soldiers who died there during the civil war. The monument was unveiled and presented by Major Charles G. Davis, chairman of the Memorial Commission, and addresses were made by Lieut.-Gov. Bates and Hon. J. J. Myers, Speaker of the House. Major Davis said, in the course of his address: "More than half as many sons of Massachusetts gave up their lives within the precincts of these few acres of land from March, 1864, until March, 1865, as were killed in action among the officers and men of the first 15 Massachusetts infantry regiments during the entire civil war. One son of Massachusetts died here for every 5 sons of Massachusetts killed in battle during the war. One son of Massachusetts died here for every 16 sons of Massachusetts who died in battle or of wounds or disease during the war. Nearly four times as many sons of Massachusetts were killed here as were killed in action in the United States army during the Spanish War." The number of the known men of Massachusetts who died there is 767.

The monument is on land bought by women of Massachusetts comprising the Woman's Relief

Corps, and deeded to the Commonwealth. It is entirely of Quincy granite and cost \$8,000.

Education.—Harvard University received this year a gift of \$462,000 from Mr. and Mrs. Nelson Robinson for an architectural endowment, and more than \$1,000,000 from J. Pierpont Morgan for 3 medical-school buildings to promote "applied biological research."

Within the year Wellesley College received gifts of more than \$325,000. Another noteworthy gift is that of a library of Italian literature, including 50 manuscripts, from George A. Plimpton. The degree of B. A. was conferred on 113 candidates.

Phillips Andover Academy graduated a class of 82 this year. A gift of \$250,000 was received.

At Amherst, in June, 67 students received the degree of B. A., and 16 that of B. S.

At the first public graduation exercises of the New Bedford Free Textile School, Oct. 23, there were 88 graduates, 79 in night courses of instruction and all mill operatives.

A college of horticulture, for women only, is announced to open soon at a farm in Groton, under the control of Mrs. E. G. Low, its sole promoter, who has given the institution the name Lowthorpe.

Charities.—The State Board of Charity reports that last year it cared for 4,085 persons at the State Hospital and Farm at Bridgewater, expending \$215,045.98 and having a balance of \$1,619.43 left. On the State Farm was expended \$153,294.82. The population of the farm is made up of prisoners, paupers, and insane.

Four nurses' homes have been built at Worcester Hospital, Taunton Hospital, Medfield Asylum, and at the State Farm in Bridgewater. These will accommodate 210 persons at a cost of \$149,000, furnished and equipped.

At Northampton Hospital an infirmary building is erected for 60 patients, the upper stories to furnish temporary quarters for 25 nurses. This will cost \$55,000. At Westboro Hospital \$50,000 has been spent in construction and repair of buildings to accommodate a colony of 100 patients. The Danvers farmhouse will cost \$25,000. For this total expense of \$130,000, 225 additional patients will be accommodated, at an average cost of \$577.77. In all, the additions this year will accommodate 435 additional patients, at a total cost of \$295,000.

Land has been bought in Gardner for a State colony for the insane, which was provided for by the Legislature of 1900.

Railroads.—The Boston elevated railway was opened in June. It was estimated that 300,000 passengers were carried on the opening day. The cost of the railway is estimated at \$10,000,000; the length of double track is 6 miles; of single track, $\frac{1}{2}$ mile. About twenty minutes is saved from the surface-car time in going from Sullivan Square to Dudley Street.

The trolley-line between Springfield and Palmer has taken away much of the passenger traffic from the steam roads.

Court Decisions.—The curfew ordinance of West Springfield was adjudged illegal in the Superior Court in June.

In May the Supreme Court affirmed the validity of a marriage entered into in the State during the existence of slavery in the South by a fugitive slave who maintained his actual freedom, on the ground that, being *de facto* beyond reach of his master's authority, he could marry as a freeman.

Anniversaries.—South Natick began on July 3 a two-days celebration of the two hundred and fiftieth anniversary of the founding of the town by John Eliot and his Indian followers. The town

was filled with visitors, among them being several hundred descendants of Eliot who held a reunion in connection with the celebration.

Services on the two hundred and fiftieth anniversary of the organization of the First Parish in Bridgewater and the one hundredth anniversary of the building of the present meeting-house in the parish, were held in the old church, June 23, which is now in West Bridgewater.

Legislative Session.—The Legislature convened Jan. 2, and was prorogued June 19. On joint ballot there were 214 Republicans, 64 Democrats, 4 Independents, and 2 Socialist-Democrats.

Rufus A. Soule was made President of the Senate, and James J. Myers was Speaker of the House.

United States Senator George F. Hoar was re-elected, to serve the term ending in 1907, his fifth term. He received 29 votes in the Senate and 169 in the House, against 8 in the Senate and 48 in the House for Richard Olney, the Democratic candidate, and 1 in the House for C. H. Bradley, Socialist-Democrat.

Laws to the number of 532, and 116 resolutions, were passed and signed, and 6 measures were vetoed.

The State being entitled under the act of Congress to one more Representative (14 in all), the congressional districts were reapportioned.

A metropolitan water and sewerage board was created. It is to consist of 3 members, appointed by the Governor and Council; the term is three years; the salary of the chairman is \$5,000; of other members, \$4,500. The Metropolitan Water Board and the Board of Metropolitan Sewerage Commissioners was abolished. Contractors employed in the construction of metropolitan water-works must give bonds to indemnify the community for expense on account of the introduction of pauper or indigent employees.

The office of prison commissioners was abolished. The Governor was authorized to appoint a board to take their duties, to consist of 5 persons, 2 of them women, to serve without salary except the chairman, whose salary is to be \$4,000; the term is five years. The board may remove any prisoners except those under life sentence from the prisons to the Reformatory.

The emission of smoke within a quarter-mile of a dwelling is to be deemed a nuisance, but annual permits may be given.

A bill presented on petition of the State Total Abstinence Society, providing that at annual town meetings the polls shall be open for the reception of votes upon the question of licensing the sale of intoxicating liquors from the organization of the meeting until the close of the polls for the election of town officers, was passed with the change of time to "at least one hour." Another amendment to the liquor laws provides that native wines may be sold in no-license towns only on the premises of the makers. A druggist may, on prescription of a physician, sell liquor to a person supported by public charity within the year.

The law on cigarettes was changed so as to make it a misdemeanor to sell or give to a person under eighteen, instead of sixteen, as formerly.

Wagering contracts in stocks or commodities where no purchase is intended were prohibited. The lack of the seller's ownership is to be taken as evidence of a wagering contract.

A commission appointed in 1900 to codify and revise the militia law reported this year. Some changes were recommended in the rank of staff-officers, and the number reduced; squadron and artillery battalion headquarters to be abolished,

and all drum-corps abolished, and other unimportant changes. It was estimated that a saving of \$19,500 a year would be effected.

Political party caucuses, except for special elections, are to be held on a day named by the State committee for the whole State. All delegates are to be elected and candidates nominated at the caucus, and the convention is not to be held within seven days after the caucus.

Other enactments were:

Requiring a corporation with a franchise for using public streets to pay 4 per cent. interest on deposits received from customers for payment of future expenses, if held more than six months.

Allowing charitable, religious, educational, and fraternal corporations to hold real estate of value not over \$1,500,000.

Requiring tax-collectors' deeds to be recorded within thirty days after sale; and after the expiration of five years such deeds shall be *prima facie* evidence of facts therein. Notice of intended sale need not be posted on the premises.

Exempting women from poll-tax.

Making penalty for non-payment of poll-tax seven days' imprisonment instead of twenty.

Providing that the civil-service act may apply to police and fire departments of any town where the majority vote to accept it.

Permitting city council or town meeting, if they accept the act, to retire on half-pay policemen incapacitated by injuries received in the service.

Allowing mutual-assessment accident insurance companies to insure against disability from illness.

Permitting insurance companies to insure against loss by breakage or accident to machinery.

Allowing street-railway companies to carry newspapers and United States mail.

Directing the Tax Commissioner to assess an annual tax of $\frac{1}{2}$ of 1 per cent. on average trust deposits of corporations with the Treasurer.

Providing that the defendants in actions for libel and slander may prove acts of the plaintiff tending to prove the charges true.

Making the penalty for kidnaping twenty-five years' imprisonment.

Fixing the New York boundary.

Allowing the United States to acquire a tract of land on Peddock's island, in Boston harbor.

Allowing bootblacks to work on Sunday till 11 A. M.

Forbidding the employment of minors under eighteen in the making of acids pronounced injurious to health by the State Board of Health, under penalty of \$100 for each offense.

Requiring 5-per-cent. inheritance tax on all property, instead of on property over \$10,000 only.

Providing that the affidavit of the subscribing witness to a will may be received as evidence for probate.

Prohibiting the sale of food containing antiseptic or preservative substances, with some exceptions. Articles of food and drink must be labeled with letters of a certain size showing the ingredients and with the manufacturer's name. Carcasses of food animals must be inspected except in establishments under Federal supervision.

Appropriating \$3,600 for instruction of adult blind persons at home.

Permitting cities and towns to regulate the speed of automobiles.

Authorizing a State highway loan of \$500,000—bonds at not more than 4 per cent., for not more than thirty years. Five per cent. of the highway fund must be spent in towns of valuation not over \$1,000,000; 5 per cent. may be spent in

towns over that if the town appropriates an equal amount over and above its average road expenditure.

Appropriating \$25,000 annually for ten years for the Massachusetts Institute of Technology.

Forbidding manufacture or sale of cloth or paper containing arsenic.

The Legislature was prorogued June 19, to meet again Nov. 13, for the purpose of considering such revision of the statutes as should be suggested by a special committee of 50.

At the special session the report of the committee was accepted, and provision was made for printing 7,500 copies of the Revised Statutes.

Resolutions expressing sorrow at the death of President McKinley were adopted unanimously by rising vote, Nov. 20.

Political.—The State election took place Nov. 5. Tickets were nominated by the Republican, Democratic, Democratic-Social, Socialist-Labor, and Prohibition parties.

The Democratic convention met in Boston Oct. 3, and nominated Josiah Quincy for Governor. The other nominations were: For Lieutenant-Governor, John W. Coughlin; Secretary of State, Willmore B. Stone; Treasurer, Joseph I. Chalfoux; Auditor, James F. Dean; Attorney-General, A. A. Putnam.

The opening sentences of the platform expressed sorrow for the death of the President, and denounced anarchy. A declaration favoring election of United States Senators by direct vote of the people was made, and the following:

"We are not only absolutely opposed to colonial imperialism abroad and to the commercialism reckless of everything but its own profit which supports it, but to every manifestation of the same reactionary and antidemocratic spirit at home.

"We demand that the efforts of our Government shall be directed toward preparing the people of the Philippines for the speediest and largest measure of self-government and for ultimate independence, under the protection of this country.

"We heartily indorse the broad statesmanship of President McKinley's speech at Buffalo. The people of Cuba, for whose welfare we have made ourselves trustees, are plainly entitled to the most liberal commercial arrangement with this country.

"All tariff duties upon articles produced by trusts which stifle competition at home or which favor the foreign at the expense of the American consumer, should be abolished.

"We urge, among other things, the admission into this country free of duty of all articles entering into the construction and repairs of ships."

The Republican convention, at Boston, Oct. 4, renominated Gov. Crane and most of the other State officers. The ticket was: For Governor, Winthrop Murray Crane; Lieutenant-Governor, John L. Bates; Secretary of the Commonwealth, William L. Olin; Treasurer and Receiver-General, Edward S. Bradford; Auditor, Henry E. Turner; Attorney-General, Herbert Parker.

The platform expresses sorrow for the death of President McKinley and pledges "loyal and unflinching support" to his successor; declares that the operation of mob law, which is the most flagrant form of anarchism, should be suppressed; that special penalties should be provided for those who shall murder, assault, or threaten the life of the President or the Vice-President; that the regulation of the hours of labor should be a national affair and in the hands of Congress. It reasserts the principle of protection of American labor by a protective tariff, and declares that "reciprocity

of trade with foreign countries is not inconsistent with an adequate measure of protective duties to American interests." On home affairs the platform calls for the improvement of Boston harbor; suggests that, in the use of highways by corporations, either an initial payment or a continuing tax should be required; and recommends the "careful consideration of a proper system of initiative and referendum in questions of local interest."

The candidates of the Prohibition party were: For Governor, John B. Lewis; Lieutenant-Governor, William H. Partridge; Secretary, Frederick W. Clark; Treasurer, George E. Batchelder; Auditor, John H. Smith; Attorney-General, Allen Coffin.

The Democratic-Socialist party made the following nominations: For Governor, George H. Wrenn; Lieutenant-Governor, Charles W. White; Secretary, Alonzo H. Dennett; Treasurer, Wendell P. Bosworth; Auditor, Frank Thompson; Attorney-General, Clarence E. Spelman.

The Socialist-Labor party named for Governor, M. T. Berry; Lieutenant-Governor, Alfred E. Jones; Secretary, Jeremiah O'Fihelly; Treasurer, Frederick A. Nagler; Auditor, Frank Keefe; Attorney-General, John T. Hargraves.

The Republican candidates were elected. For Governor the vote stood: Crane, Republican, 185,809; Quincy, Democrat, 114,362; Lewis, Prohibitionist, 4,780; Wrenn, Democratic-Socialist, 10,671; Berry, Socialist-Labor, 8,898; scattering, 6.

The executive councilors elected were all Republicans except Jeremiah J. McNamara, Democrat, elected in the Fourth District, in Boston, by a plurality of 10,586. The Republicans elected were David F. Slade, Arthur A. Maxwell, Henry D. Yerxa, David I. Robinson, S. Herbert Howe, Lucius Field, Julius H. Appleton.

At the city elections in December, Boston elected a Democratic mayor, Patrick A. Collins. Other cities that chose Democratic mayors were Cambridge, Lowell, Woburn, Pittsfield, and Lawrence. Independents were elected in Fitchburg, Quincy, Beverly, and Newburyport. No mayor was elected in Medford, and in the remaining 21 cities Republican candidates were successful. Nineteen of the cities voted for license.

MICHIGAN, a Western State, admitted to the Union Jan. 26, 1837; area, 58,915 square miles. The population, according to each decennial census since admission, was 212,267 in 1840; 397,654 in 1850; 749,113 in 1860; 1,184,059 in 1870; 1,636,937 in 1880; 2,093,889 in 1890; and 2,420,982 in 1900. Capital, Lansing.

Government.—The following were the State officers in 1901: Governor, Aaron T. Bliss; Lieutenant-Governor, Orrin W. Robinson; Secretary of State, Fred. M. Warner; Treasurer, Daniel McCoy; Auditor, Perry F. Powers; Attorney-General, Horace M. Oren; Superintendent of Public Instruction, Delos Fall; Commissioner of State Land Office, E. A. Wildey; Adjutant-General, George H. Brown; Labor Commissioner, Scott Griswold; Bank Commissioner, George L. Maltz; Insurance Commissioner, James V. Barry; Railroad Commissioner, Chase S. Osborne; Food Commissioner, W. E. Snow; Salt Inspector, F. P. Dunwell; Commissioner of Mineral Statistics, T. A. Hanna; President State Board of Health, Frank A. Wells; Tax Commission, James C. McLaughlin, A. F. Freeman, William T. Dust, Ira T. Sayre, Graham Pope; Coal-Mine Inspector, Charles Atwood; Game Warden, Grant M. Morse; Secretary Board of Charities, L. C. Storrs; Chief Justice of the Supreme Court, Robert M. Mont-

gomery; Associate Justices, Frank A. Hooker, Joseph B. Moore, Charles D. Long, Claudius B. Grant; Clerk, C. C. Hopkins—all Republicans.

The term of the State officers is two years; they are elected in November of the even-numbered years. The Legislature, consisting of 32 Senators and 100 Representatives, meets biennially in January of the odd-numbered years.

Finances.—The receipts of the treasury in the year ending June 30 were \$5,875,973, and the disbursements \$5,700,007. The balance remaining was \$2,627,523, of which \$2,097,704 was in the general fund.

The aggregate State tax for 1901 was \$3,835,844.97. The various objects for which the tax is levied, together with the amount each will receive, are as follow: University, \$457,525; Agricultural College, \$100,000; State Normal College, \$118,516.40; Central Normal School, \$91,250; Northern Normal School, \$79,130; College of Mines, \$88,812.50; State Library, \$13,875; Soldiers' Home, \$18,205; Home for the Feeble-Minded and Epileptic, \$156,350; State Public School, \$61,250; School for the Deaf, \$138,500.16; School for the Blind, \$41,728.75; Michigan Asylum, \$40,643.12; Eastern Asylum, \$16,000; Northern Asylum, \$52,644; Upper Peninsula Asylum, \$92,051.50; State Asylum, \$82,900; State Prison, \$8,000; Michigan Reformatory, \$16,635; Industrial School for Boys, \$121,750; Industrial Home for Girls, \$98,046.75; State Fish Commission, \$45,155; compiling and copying records of Adjutant-General's office, \$12,500; Dairy and Food Commission, \$26,500; State Dairymen's Association, \$3,000; State Library Commission, \$8,000; National Guard, \$121,149.10; Naval Brigade, \$20,511.06; State Board of Health, \$6,500; State Weather Service, \$1,000; war loan of 1898, \$197,262.50; Pan-American Exposition, \$43,000; State Agricultural Society, \$4,500; Horticultural Society, \$1,500; Geological Survey, \$2,800; bronze medals for Spanish War veterans, \$4,000; current expenses of prisons, \$70,000; current expenses of asylums, \$540,758.13; general purposes, \$700,000.

The total valuation of the State as equalized in 1901 is \$1,578,100,000.

The State had a Spanish War claim against the Government of \$446,000, of which \$358,000 has been paid. The Government has a counterclaim for \$68,000 of the Sault Canal fund.

Education.—The school population in 1900 was 721,698. The enrolment in the graded schools was 301,275, and in the ungraded schools 203,710. There were 9,651 non-resident pupils enrolled in the graded schools, and 7,555 in the ungraded schools. The average duration in months of graded schools was 8.54, and in ungraded schools 8.17. The estimated number of pupils attending private, select, or parochial schools was 52,239; the number of teachers necessary to supply the graded schools, 6,815; number necessary to supply the ungraded schools, 6,452.

There were 3,240 male teachers in public schools, and 12,684 female. The average monthly wages of men were \$46.73; of women, \$35.71.

The report of the Agricultural College for the year ending June 30 shows current expenses amounting to \$96,303.37. The total attendance of full-course students was 556, an increase of 5 over the preceding year. In the short courses were 91, an increase of 20.

The number of townships reporting libraries was 426; number of districts reporting libraries, 3,658; number of volumes in township libraries, 7,177; number of volumes in district libraries, 809,590.

The attendance at the University of Michigan,

at Ann Arbor, in 1901 was 3,482, not counting those who attended the summer school, which is an increase of 178 over the year before.

The Detroit branch of the International Association of Machinists, on June 15, forwarded to the president of the university a protest against the plan of certain Detroit employers of hiring undergraduates of the university to fill the places of striking machinists.

Militia.—By the law that passed the Legislature this year for the reorganization of the National Guard, the Governor now has greater power; the membership of the Military Board is increased by the addition of the brigadier-general and the commandant of the Naval Reserves; the board is empowered to increase the number of military companies to more than 40, and to muster in a company of colored troops; the State encampment will last ten days instead of six; and a more rigid military government will be the result of the new law. The allotment to the State from the Government appropriation for militia is \$29,728.55.

Products and Industries.—The coal-fields produced 843,476 tons in 1900. It was estimated that the product in 1901 would be 1,000,000 tons. The Labor Commissioner's canvass of about 80 per cent. of the coal-mine employees in 1900 gave the following statistics: Number of mines canvassed, 25; number of employees, 1,311; average age, 31.6; number native born, 693; number foreign born, 613; whole number of persons supported by those canvassed, 3,868; average for each employee, 3; average hours worked per day, 8.1; average number of days worked per month, 20.2; average daily wages, \$1.91; number who save from their earnings, 444; number who can not save, 867. The average daily wages of \$1.91 is an increase of 21 cents over the average daily wages of the previous year. The number of coal-mines in operation on Dec. 1, 1900, was 31; average in operation during the year, 25; average number of persons employed in all mines, 1,638.

The report of the Salt Inspector shows that there are 65 salt-blocks in the State, with a total capacity of 9,500,000 barrels of salt annually if worked to their full capacity. Sixty-two of these plants were operated during the year ending Nov. 30, 1901, and the amount inspected was 5,580,101 barrels.

The State is credited with a product in 1901 of gold to the value of \$29,000, and 120,000 ounces of silver.

The number of sheep in the State was 1,624,000.

The commissioner says few citizens know anything of the chicory industry, much less that there are in Michigan 7 factories, with a daily capacity of 190 tons of chicory root and an aggregate capital of \$175,000. Two of these factories manufacture the article complete, putting it on the market ready for use. The others merely slice and evaporate the water from the roots, selling the dried product in bulk.

The flax industry is new to the State, having been started in 1888, and is confined to the counties of St. Clair, Sanilac, and Huron. There are 6 factories, using about 4,000 tons of raw material. The yield averages about 2 tons to the acre; the average price paid to farmers is \$10 a ton.

Insurance.—The report on the fire and marine insurance for 1900 shows that 9 joint-stock companies were admitted to Michigan and 10 withdrew. Between January and June, 1901, 3 companies were admitted, making a total of 159. Three of these are Michigan companies, 111 companies of other States, and 45 companies of foreign countries.

Three mutual fire companies organized under the laws of Michigan went into the hands of receivers during the year, and 9 were authorized to begin business, making a total of 95 now in existence.

The farmers' mutuals, so-called, have had another successful year.

The whole number of life and casualty companies and fraternal societies doing business in Michigan is 187. Four life companies were admitted and 1 withdrew from the State during the year. Four casualty companies were admitted and 1 withdrew. Nine assessment companies were admitted, 2 withdrew, and 4 changed their names. Eleven fraternal societies were admitted, 7 ceased doing business in the State, and 3 changed their names. These have an aggregate of \$375,000,000 insurance in force.

The receipts of the State department of insurance for the year were as follow: From fire and marine companies of other States and countries, 3 per cent. tax on gross Michigan premiums, \$148,337.38; from life companies, 2 per cent. of gross premiums, \$116,122.41; from casualty and integrity companies, \$9,589.96; from assessment life, accident, and sick-benefit companies, \$785; from retaliatory taxes, \$18,304.65; total, \$293,139.40.

A decision rendered by the Supreme Court in October is against the claim of the sick and accident insurance societies that they are not liable when a claimant leaves his house during the time for which payment is claimed. The court held that a claimant may go walking or driving or even make a journey, on advice of his physician, without forfeiture.

Banks.—At the beginning of the year there were 192 State banks and 3 trust companies under supervision of the department. Two national banks were converted into State banks. Only 1 reduced its capital stock, while 7 increased theirs. Six new banks were organized. A net increase of \$635,000 capital stock is shown. One receivership was closed; several banks are still in the hands of receivers. On Dec. 19, 1900, the amount of cash in the 192 State banks and 3 trust companies was \$25,416,404.40, and in the 85 national banks \$18,670,048.72.

Railroads.—The aggregate income of the roads operating in the State in 1900 is given as \$39,607,833.37; the total tax based on this income and payable in 1901 was \$1,353,549.02.

Loan Associations.—During the year ending June 30, 1901, the Michigan Savings and Loan Association, of Detroit, went into the hands of a receiver; the Citizens' Building and Loan Association, of Flint, and the Muskegon Valley Building and Loan Association went into the hands of conservators; and the Holland Building and Loan Association, of Grand Rapids, and the Alpena Loan and Building Association wound up their business and filed notice of dissolution. The Savings and Loan Association, of Negaunee, and the Marquette Building and Loan Association have gone into voluntary liquidation.

The financial statement shows total assets and liabilities of \$9,336,764.07, and total receipts and disbursements of \$7,032,430.48. The number of shares of stock issued during the year was 83,137; number matured, 10,046; number retired, 6,313; number withdrawn, 48,737; number otherwise eliminated, 12,783; number in force at close of year, 270,897; number of investing members, 22,885; number of borrowing members, 8,902; total membership, 31,787. The aggregate of authorized stock is \$235,337,500; stock in force at close of year, \$25,682,243.52. There were 128 foreclosures in the year.

Legislative Session. The forty-first Legislature was in session from Jan. 2 to June 6. On joint ballot there were 130 Republicans and 11 Democrats.

R. B. Loomis was President *pro tem.* of the Senate, and John J. Carton was Speaker of the House.

There were 486 laws and 31 resolutions passed. United States Senator James McMillan was re-elected Jan. 15, being the unanimous choice of the Republican members, and receiving 50 votes in the House and 31 in the Senate.

The number of members of the State Tax Commission was raised from 3 to 5. The secretary's salary was fixed at \$2,000 instead of \$1,500. They are to assess and levy taxes on railroad car and express companies.

It was enacted that the Board of Auditors, consisting of the Secretary of State, the Treasurer, and the Commissioner of the Land Office, are to receive \$1,800 each annually in place of traveling expenses. The constitutionality of this act is questioned.

The laws affecting the militia were revised, the changes not to affect the naval militia.

The laws on State lands were amended by several acts.

A new garnishee law provides that a man who is a homesteader shall have 80 per cent. of his earnings exempt, but that the amount exempted shall never be less than \$8 nor more than \$30. Unmarried persons have a \$4 flat exemption, but their exemption in any case shall not exceed \$15.

A bill was passed prescribing the method for taking the next State census in 1904. The bill places the work in the hands of the Secretary of State. The census is to give statistics of population, manufacturing, mining, and mechanical products, and to be taken every ten years, beginning with 1904.

The section requiring candidates and election committees to report their expenditures under oath was repealed.

The factory-inspection law was revised.

The law for regulating building and loan associations was revised. A majority of the trustees of a fraternal society must be residents of the State. Death claims against such are not to be deemed valid if the deceased has died by unlawful act of the beneficiary.

The House passed a "general purpose" bill at the close of the session, to cover all matters not provided for by specific appropriation; it carried \$1,578,280.12, but was cut by the Senate to \$1,200,000. The total of appropriations was \$6,972,000, an increase over those of 1899 of \$293,000. Of this amount, \$700,000 is for new buildings at State institutions.

Other measures were:

Appropriating \$7,500 for farmers' institutes, reading courses, and lectures.

Providing for the withholding of State tax lands from homestead entry, and the fixing a minimum price for their sale.

Exempting from taxation lands and buildings owned and used exclusively by Grand Army posts or Women's Relief corps.

Raising the annual appropriation to the Pioneer and Historical Society from \$1,500 to \$2,000.

Making June 14 Flag Day.

Changing the age-limit of compulsory school attendance from sixteen to fifteen, with provisions against truancy.

Raising the minimum age for teachers from seventeen to eighteen.

Revising the game-law; protecting certain birds; protecting moose, elk, and caribou for ten years;

open season for deer, Nov. 8 to 30; squirrels, Oct. 15 to Nov. 30; partridge, quail, and waterfowl, Oct. 1 to Nov. 30.

Designating certain lands as a forest reserve.

Making it a misdemeanor to make and sell imitation butter; a misdemeanor to sell adulterated black pepper.

Permitting appointment of inspector of aparies.

Appropriating \$1,500 annually to the State Horticultural Society.

Appropriating \$2,000 annually to the Board of Health for leaflets on contagious diseases.

Providing for city boards to license plumbers.

For licensing embalmers of bodies dead of contagious or infectious diseases.

Making it a misdemeanor for an employee of a telegraph, telephone, or messenger company to divulge the contents of a message, forge the name of the receiver, or refuse or neglect to transmit and deliver.

Providing that the holder of a sheriff's certificate of sale may take a deed within ten years of the expiration of the redemption period, or within five years if that period has expired.

Appropriating \$2,800 to the Geological Survey, for printing reports and maps.

Permitting the State Librarian to loan books to grange libraries and women's clubs.

Regulating distribution of bodies to medical colleges.

Providing for the assessment of $\frac{1}{10}$ mill on \$1 valuation for the State Agricultural College and Experiment Station; maximum, \$100,000.

Providing for establishment of rural high schools on petition of one-third of taxpayers and vote of majority of electors.

Imposing a penalty of \$25 and thirty days in jail for defacing or defiling the United States flag or any representation of it.

Making veterans of the Philippine war admissible to the State Soldiers' Home.

Making it a misdemeanor to wear without right a G. A. R. badge or button, or a badge, rosette, or insignia of the Loyal Legion.

Appropriating \$4,000 for bronze medals to soldiers and sailors of the State who served in the Spanish and Philippine wars.

Providing for a soldiers' and sailors' monument commission.

Providing for completion of the military history of soldiers and sailors of the State in the civil war and the Spanish War.

Appropriating \$50,000 for establishing a psychopathic ward at the hospital of the State University, for accommodation of 40 patients.

Two constitutional amendments were proposed, to be submitted to voters in November, 1902. One permits the Legislature to provide for indeterminate sentences. The other is to abolish payment for the publication of general laws in newspapers.

State Prosecutions.—The cases against former State officials and others (see Annual Cyclopædia for 1900, page 579) were before the courts this year. Charles Pratt was convicted on the charge of bribery in November, and the trial of E. J. Adams for the same offense was to follow. The case against Gov. Pingree for contempt of court was continued to July 30, 1901, on account of his absence in Europe, where he died, June 18.

Decisions on Laws.—Several recent enactments of the Legislature have been brought before the Supreme Court and have been pronounced valid—the inheritance law, the parole law, the act abolishing the Detroit Park and Boulevard Commission and substituting therefor the office

of single Commissioner of Parks and Boulevards, and the act extending the term of the city officials of Detroit one year providing that no city election should be held till November, 1902.

The law of 1897 providing for a bounty on beet-sugar was declared unconstitutional as class legislation. It gave 1 cent a pound to manufacturers who paid \$4 a ton for beets.

Political.—A State election was held in April for a justice of the Supreme Court and two regents of the university, which resulted in the choice of Robert M. Montgomery, Republican, for justice of the Supreme Court, and Frank W. Fletcher and Henry W. Carey, Republicans, for regents of the university.

Two constitutional amendments were submitted, and both were rejected. One, providing that members of the Legislature be paid \$1,000 a term instead of \$3 a day, was lost by a vote of 112,883 in favor to 187,615 opposed. The other was to provide for additional circuit judges in one of the counties, and was lost by 110,885 to 130,108.

MINNESOTA, a Western State, admitted to the Union May 11, 1858; area, 83,365 square miles. The population, according to each decennial census since admission, was 172,023 in 1860; 439,706 in 1870; 780,773 in 1880; 1,301,826 in 1890; and 1,751,394 in 1900. Capital, St. Paul.

Government.—The following were the State officers in 1901, taking office the first Monday in January of that year: Governor, Samuel R. Van Sant; Lieutenant-Governor, Lyndon A. Smith; Secretary of State, Peter E. Hanson; Auditor, Robert C. Dunn; Treasurer, Julius H. Block; Attorney-General, Wallace B. Douglas; Commissioner of Insurance, Elmer H. Dearth; Adjutant-General, Elias D. Libbey; Chief Grain Inspector, E. S. Reishus, until Aug. 1, when he was succeeded by L. D. Marshall; Commissioner of Labor, John O'Donnell; Public Examiner, E. M. Pope; Chief Justice of the Supreme Court, Charles M. Start; Associate Justices, L. W. Collins, John A. Lovely, Calvin L. Brown, Charles L. Lewis; Clerk of the Supreme Court, Darius F. Reese—all Republicans.

The judges of the Supreme and district courts are elected by the people for six years. The clerk of the Supreme Court is elected every four years. The other court officers are appointed by the judges, except the deputy clerk and his assistants, who are appointed by the clerk of the court. State officers are chosen in November of even years. The Legislature convenes in January of odd years, and the session is limited to ninety legislative days.

Finances.—For the fiscal year ending July 31, 1901, the receipts of the State treasury were \$8,901,184.54, and the disbursements \$6,900,841.30, leaving a balance of \$2,000,343.24.

The State debt was \$2,009,000, having been reduced \$285,000 during the year. The permanent school and university funds were respectively \$7,599,218.32 and \$931,500.

The principal classifications of the treasury receipts for the year were: Revenue fund, \$4,457,707.93; permanent school fund, \$1,258,127.72; general school fund, \$1,906,670.77; general university fund, \$429,479.84. The disbursements were: Revenue fund, \$3,761,669.96; permanent school fund, \$876,686.16; general school fund, \$1,340,015.44; general university fund, \$398,939.47. The amount of railroad taxes paid was \$1,439,349.24. The total of insurance taxes paid to the State Insurance Commissioner's office was \$233,767.82.

Charities and Corrections.—Until the beginning of the new fiscal year in this department of

the State Government local boards of charities and corrections, assisted by the State Board of Charities and Corrections, acting as an advisory board, were charged with the management of the State institutions. By a legislative enactment, these local boards and the State board have been abolished, and in their stead a State Board of Control, of 3 members, named by the Governor, assumed the management of the affairs of these institutions, Aug. 1, 1901.

There are 3,639 inmates in the various State insane hospitals, distributed as follow: Anoka, 115; Hastings, 125; Fergus Falls, 1,325; Rochester, 1,104; St. Peter, 970. The populations of other State institutions are: School for Deaf, 232; School for Blind, 70; School for Feeble-Minded, 669; State Public School, 274; State Training-School, 380; State Reformatory, 139; State Prison, 527.

Lands.—The State has been a beneficiary during the past year of the enormous demand for lands due to a rush of settlers from Iowa, Illinois, Indiana, and other States, and 100,000 acres of school lands were sold for more than \$1,000,000, the average price per acre being about \$4.50 larger than was ever before received by the State. By these sales the permanent school fund has been increased proportionately. The demand for the State's mineral lands has also been very active, and almost every tract known to be within the mineral belt, as defined by the State geologist and subsequent exploration, has been leased. Several of the lessees have developed deposits of iron ore which promise to be very valuable and are roughly estimated to be worth to the State, in royalties, not less than \$3,000,000.

The timber on State lands, while steadily decreasing in amount, has greatly increased in value, and the 50,000,000 feet netted the State an average price of \$5 a thousand feet. The permanent school fund, which is derived from the sales of State lands and timber and mineral leases, amounted on July 31, 1901, to \$13,917,420.25, of which \$7,599,218.32 was invested in the bonds of other States and Minnesota school district bonds, \$5,936,760.37 was in outstanding land contracts, and \$381,441.56 in cash. The permanent university fund amounted to \$1,500,000, and the internal improvement fund to \$2,800,000.

Products.—In the past year 50 additional creameries have been established and 14 that have lain dormant have been resurrected, making a total of 646. These were supplied with milk from 430,965 cows, producing 1,254,639,088 pounds of milk in the year. The butter manufactured therefrom was 57,210,312 pounds. Of this there was shipped out of the State 46,808,415 pounds. The amount paid to patrons was \$9,047,888. Minnesota butter received the highest awards at all of the butter and produce expositions held in the United States.

The record of analyses made by the State Dairy and Food Inspector for Feb. 1, 1901, to Jan. 1, 1902, was 3,396, which was 8½ per cent. more than the total for the preceding two years. Of this number, 2,184 were found to be legal and 1,112 illegal. Many of the illegal analyses came as voluntary samples from jobbers and manufacturers both within and without the State.

A statement of the shipments of iron ore from the Mesaba and Vermilion ranges in the year just closed shows a total sent over the Minnesota railroads of 10,786,923 tons, against 9,424,861 tons last year. This is 44 per cent. of the total product of the Lake Superior basin.

Minnesota is the greatest wheat-producer of the United States. In 1901 the yield amounted to

about 80,000,000 bushels. The State produced very liberally of corn, sweet potatoes, but on account of a shortage in the potato and corn crops in the central part of the country, in the Ohio valley, a large part of the State's product of these crops went to fill that shortage, thereby raising the local prices far in advance of former years. The flax-crop was also a very good yield and commanded good prices.

Education.—There are in the State 129 high schools, and each receives special State aid of \$1,000. The total enrolment in these schools for the year ending July 31, 1901, was 15,278; the number of graduates was 1,673. There are 107 graded schools of not less than 4 departments, employing 623 teachers. In addition to these, there are 82 graded schools of not more than 3 departments, employing 274 teachers.

In the University of Minnesota there are 3,550 students, including 1,008 women. With one exception, it has the largest enrolment of any State university in the United States. The students are distributed as follow: College of science, literature, and the arts, 1,127; engineering, mines, and chemistry, 439; law, 490; medical colleges, 386; agricultural department, 605; dentistry, 104; pharmacy, 73; graduate department, 170; summer school, net 185; duplicates, 29.

The annual resources for current expenses are \$360,000; invested funds, \$1,250,000.

Labor.—The present Commissioner of Labor is directing his efforts toward lessening the employment of child labor, but at the same time keeping alive to the primary thought of not working a hardship to the welfare of the child or his immediate family by the suppression of its labor. This department is making a general investigation of wage-earners and their conditions, and has sent out a circular containing 40 general questions to be answered by these wage-earners. It has also taken up an investigation of the domestic wage-earners from the standpoint of employer and employee. Sunday work in addition to the regular week's work, as far as the present inspection has reached, includes 5,374 persons, or 6.29 per cent. of the weekly wage-earners, the largest number of Sunday workers being employed in electric-light, heat, and power plants, and the smallest number in flouring-mills.

Legislative Session.—The Legislature convened Jan. 8, 1901, and adjourned April 12, being in session seventy-nine working days. Two United States Senators were elected—Moses E. Clapp to fill the unexpired term of the late Cushman K. Davis, and Knute Nelson to succeed himself. The bills that became law included the following:

Providing for a commission to revise and codify the tax laws of the State.

Providing for a commission to revise and codify the statutes.

A primary election law, by which party nominees will be chosen directly by the people for all elective offices including congressmen, except State officers.

Raising the gross-earning tax on railroad properties to 4 per cent., to be approved by the people at the next general election.

An inheritance tax.

Raising the gross-earnings tax on express companies from 3 to 6 per cent.

Applying the Torrens system of land-title registration to the 3 largest counties.

MISSISSIPPI, a Southern State, admitted to the Union Dec. 10, 1817; area, 46,810 square miles. The population, according to each decennial census since admission, was 75,448 in 1820;

136,621 in 1830; 375,651 in 1840; 606,526 in 1850; 791,305 in 1860; 827,922 in 1870; 1,131,597 in 1880; 1,289,600 in 1890; and 1,551,270 in 1900. Capital, Jackson.

Government.—The following were the State officers in 1901: Governor, A. H. Longino; Lieutenant-Governor, J. T. Harrison; Secretary of State, J. L. Power, who died Sept. 24 and was succeeded by Joseph W. Power; Treasurer, J. R. Stowers, resigned Sept. 6 and succeeded by George W. Carlisle; Auditor, W. Q. Cole; Attorney-General, Monroe McClurg; Revenue Agent, Wirt Adams; Land Commissioner, E. H. Nall; Adjutant-General, William Henry; Superintendent of Education, H. L. Whitfield; Railroad Commission, John D. McInnis, A. Q. May, J. C. Kincannon; Chief Justice of the Supreme Court, Albert H. Whitfield; Associate Justices, S. H. Terral, S. S. Calhoun; Clerk, Edward W. Brown—all Democrats.

The term of the State officers is four years; they are chosen in November of the years next preceding those of the presidential elections. The Legislature meets biennially the first Tuesday after the first Monday of January of the even-numbered years. Every second session is a special session, the regular sessions coming quadrennially. The special sessions are limited to thirty days, unless extended by the Governor, and only appropriation and revenue bills may be considered, unless the Governor introduces other subjects by message.

Census Figures.—A bulletin of the Census Bureau says: "In Mississippi persons of school age are practically all of native birth, the foreign-born element of this class representing only a tenth of 1 per cent. of the whole number. Colored persons of school age in 1900 constituted in Mississippi 59.9 per cent. of the whole number of persons of school age. White males of militia age in 1900 are substantially all of native birth. Colored males of militia age constitute 57.8 per cent. of all males of militia age in 1900. The foreign-born males of voting age are only 1.4 per cent. of the total number. The colored element constitute 56.8 per cent. of the whole number of males of voting age in 1900. Among males of voting age the proportion of illiterates is 33.8 per cent., due almost wholly to the large number of illiterate negroes. Among the whites of native parentage, the proportion of illiterate males of voting age is 8.4 per cent. Illiterate foreign white males of voting age constitute 9.5 per cent. of the whole number of foreign white males of voting age.

Only 14.7 per cent. of the population live in incorporated places.

Finances.—The receipts for the two years ending Sept. 30, 1901, were: Cash on hand Oct. 1, 1899, \$333,765.80; received from ordinary sources, \$3,411,649.48; received from sales of college lands, \$575,844.47; received through revenue agent, \$348,151.90; received from minor sundry sources, \$12,188.05; outstanding warrants Oct. 1, 1901, \$4,257.91; total, \$4,685,857.61. The disbursements were: Outstanding warrants Oct. 1, 1899, \$11,342.36; account judiciary, executive, and other State departments, \$508,774.91; account educational institutions and public schools, \$1,983,639.24; account charitable institutions and pensions, \$678,855.70; account interest on bonds, \$107,662.56; account miscellaneous relief appropriations, \$26,539.10; account special warrants canceled, \$35; account 5-per-cent. bonds, series B, redeemed, \$338,000; account new State-house, \$202,554.80; cash on hand Oct. 1, 1901, \$828,453.85; total, \$4,685,857.61.

At the session of the Legislature of 1900 the State tax levy was decreased from 6½ to 6 mills. The condition of the treasury, as is pointed out by the Auditor, is not due to excessive taxation, but to the sale of college lands and collection of railroad back taxes.

The collections from privilege taxes amounted in the second year to \$365,792.56, of which the saloons paid \$149,700.

In litigation concerning the right of the State to certain railroad taxes, the United States Supreme Court affirmed the judgment of the State Supreme Court against the claim of the railroads for exemption under their charters.

On July 1 the Governor called in \$400,000 of 5-per-cent. bonds issued in 1896. In May the bonded debt of the State was given as \$1,003,000. The amount due to school funds on which only interest can be paid was \$1,884,658.89.

The total of the personal assessment in 1901 was \$62,236,476. The increase in the number of polls assessed was 11,382, the whole number being \$291,919. The payment is voluntary, but is a prerequisite to the right to vote; the collections go to the county school funds.

The railroad assessment of the State forms about 14 per cent. of the total property valuation, real and personal. In 1900 the assessment was \$27,549,788, as against \$26,337,353 for 1899, an increase of \$712,432.

Education.—The State provides for only four months' school during the year; the counties are authorized to levy an annual tax for additional support for schools, and some of them do so, but the majority have but the four months' term. It is stated that more negro than white children attend the public schools, and that only 65 per cent. of those enrolled are regular attendants.

The Agricultural and Mechanical College had an enrolment of 517 for the session of 1900-1901. The textile building, for which the Legislature of 1900 appropriated \$40,000, has been completed and is filled with students.

The attendance at the State University in 1900-1901 was 260; the preceding year it was 287.

At Millsaps College 14 young men took the bachelor's degree this year, and 12 members of the law class were examined for license to practise.

Charities and Corrections.—The Board of Penitentiary Control shows by its report that of the 1,035 convicts in the prison 513 were convicted of taking life or attempting to take it. The convicts for criminal assault numbered 27, and for attempts 44. The entire force is engaged in farm work. The receipts were \$179,674.05, the expenditures \$169,925.70. Improvements during the year cost \$42,525.07. Four plantations belonging to the State were cultivated, 1 was rented, and 9 were taken on shares. Some of the counties have tried the experiment of working convicts in the same way, and it has proved successful.

The State Insane Hospital is just north of Jackson. There are 31 wards, giving accommodations for 1,300 patients. The present population of the institution is nearly 1,100 and is increasing. The average number of patients in 1899 was 876, and in 1900 it was 978. There are 108 officers and employees. The trustees recommend an appropriation of \$115 per capita instead of \$110 as heretofore. The East Mississippi Insane Hospital had 450 patients during the year, and 193 were removed by discharge or death. The recoveries amounted to 23 per cent.

The Institution for the Blind had 48 students at the summer session. Three were graduated, and 3 recovered their sight.

The attendance at the Institution for the Deaf and Dumb increased 77 over that of the preceding biennial period.

Military.—There are 3 regiments of militia, but in June there were but 4 companies. The Adjutant-General thinks the appropriation should be raised from \$6,000 to \$10,000 a year; 2,000 of the present amount is held back as an emergency fund, leaving only \$4,000 for the encampment and other expenses. The State's apportionment from the Government fund is \$19,117.64.

The roll of pensioners shows a total of 5,624, against 4,394 in 1900. The law appropriates \$150,000 to be distributed among the pensioners, and provides that those who are totally disabled and incapacitated for work shall receive \$100 each; those who are partially disabled by the loss of a hand or a foot are to receive \$50 each. These are known as the preferred classes. The other disabled veterans, widows of veterans, and servants of veterans, etc., are thrown into one general class, known as the prorata class. Owing to the large increase in the number of the prorata class each pensioner received only \$25 out of the total fund; in 1900 the prorata class received \$32.50.

Insurance.—There were 48 fire companies doing business in the State in 1900. Two of these were engaged in reinsurance, 2 withdrew during the year and transferred their business to other companies. The risks taken by the other 44 companies amounted to \$49,877,487, upon which premiums were paid aggregating \$1,427,026.61. In 1899 the premiums were \$1,156,937, the increase for 1900 being \$270,089.61. The average rate of premiums was 2.1216. The losses incurred were \$669,519.60, and the losses paid were \$701,843.72. In 1899 the losses incurred were \$588,049, and the ratio of loss to premium was 0.5082. The ratio of loss to premium last year was 0.4745, which is a decrease over 1899 of 0.0337. During the first four months of 1901 12 new companies were admitted, making 58 doing business in the State.

The amount of life insurance paid in 1900 was \$1,454,191.

Banks.—The Auditor's statement on the condition of the State banks shows that while there were 107 reporting Sept. 30, 1900, there were 121 on Nov. 15, 1901. The aggregate resources showed a net increase of \$5,822,997.70, having been \$20,782,962.11 at the former date and \$26,605,959.81 at the latter.

Statements from the national banks in the State, to the Comptroller, show that on July 15 there were 12, with 10,009 depositors. Ten reported dividends paid; the average dividend was 11.65; the total resources were \$7,025,602.93.

Building and Loan Associations.—Suits have been before the courts this year involving the validity of contracts of the foreign building and loan associations. The suits were brought by the receivers of the New South Association of New Orleans and the National of Atlanta. The Supreme Court held that the rates charged were usurious and the claims could not be collected; but the Federal court decided that the interest is not usurious. The question remains to be settled by the United States Supreme Court. About 150 suits involving it are pending.

Railroads.—In the year past 140.75 miles were added to the trackage in the State. The total mileage in 1900 was 29,925.73. Reports show increase in the revenues of most of the roads over those of 1900. The assessed value of railroad property was \$26,337,353 in 1899, and \$27,549,788 in 1900. The Gulf and Ship Island road, which was opened to the coast in 1900, has had unexpectedly heavy traffic; and the company has decided to refund

the bonded debt and provide means for completing the terminals, enlarging the pier at Gulfport, and making other improvements. In November a convention was held at Gulfport for the purpose of securing appropriations from Congress for making that port a deep-water harbor.

Products and Industries.—The statistics of the Census Bureau on the manufacturing and mechanical industries of Mississippi for 1900 were announced in December. The State has a capital of \$35,807,419 in the 4,772 establishments reporting. The gross value of the products is reported at \$40,431,386 with a net value of \$27,813,332, representing the increase in raw materials resulting from manufacturing processes. This involves an outlay of \$1,167,020 for salaries of officials, clerks, etc.; \$7,471,886 for wages; \$1,476,855 for miscellaneous expenses, including rent, taxes, etc.; and \$21,692,092 for materials used. While the capital invested increased over 140 per cent., the population during the same period increased almost 156 per cent. Manufacture of lumber and timber products present the most important industry of the State, employing almost 37 per cent. of all wage-earners of the State, with almost 39 per cent. of the total value of all products of the State. There were 844 establishments for this industry in 1900, giving employment to 9,676 persons, and the products were valued at \$15,656,110.

The manufacture of cottonseed oil and cake ranks second, with 41 establishments, 1,521 wage-earners, and products valued at \$6,681,121.

There were 145 establishments engaged in the manufacture of turpentine and rosin in 1900, with 2,288 wage-earners, and products valued at \$1,772,435.

There were 6 establishments engaged in the manufacture of cotton goods in 1900, with 1,675 wage-earners, and products valued at \$1,472,835.

For 1901, the estimated production in pounds of lint-cotton to the acre was 205. The product, according to one estimate, was 1,500,000 bales; another estimate made it 1,330,000. The amount consumed in the mills of the State was 24,303 bales. During the harvesting of the crop of 1900, 3,934 cotton-gins were in operation, while 212 were idle.

The biennial report of the Secretary of State shows that for the two fiscal years covered by the report the aggregate of capital stock incorporated is \$26,430,500, while the total capital stock incorporated during the four years previous was only \$25,644,000. During the two-year period of this report the number of charters and charter amendments recorded is 510, against 565 for the four years previous.

Lawlessness.—Lynchings were reported this year at or near Ocean Springs, Macon, Terry, Scranton, Gulfport, Cleveland, Erwin, Carrollton, and Balltown, and in Perry County. Seven of those lynched were accused of murder, 2 of barn-burning, 3 of criminal assault, and 2 of attempts at criminal assault. Two were burned, 2 were shot, and others were hanged. One of those hanged was a white man—a Canadian—who shot his little stepson in a quarrel with his wife. Three negroes who were lynched at Cleveland, July 20, were accused of the murder of a plantation overseer; the negroes in the neighborhood were believed to be in a conspiracy against him and other planters who, as they thought, were working them too hard. A negro woman, her son, and her daughter were hanged at Carrollton, Aug. 1. They were taken from jail where they were awaiting trial for complicity in the murder of Mr. and Mrs. Taliaferro. Two Italians were killed by a

mob at Erwin in July. The Italian vice-consul at Vicksburg brought the matter before the State Department at Washington, and strenuous efforts were made to discover the murderers, but without success. The Governor expressed his belief that the killing may have been an assassination, the result of a tribal quarrel. In December the matter came up before the Italian Senate, when the Foreign Minister is reported to have said that the Government would ask for no indemnities as the price of the blood of its subjects, but it would not object if indemnities were given to the relatives of the deceased.

Political.—An election was held Nov. 5 to fill vacancies in two State offices. On Aug. 28 the Governor suspended the State Treasurer for violation of the law requiring that all the State funds shall be kept in the treasury. The Governor had found by a count of the funds, Aug. 15, that there was a shortage of \$107,621.44 in the amount on hand; on Aug. 20 the full amount was found in the treasury. The explanation given was that on account of the crowded condition of the safe, some of the funds had been deposited in banks on good security. The Governor appointed G. W. Carlisle to fill the office temporarily, and Sept. 6 the Treasurer resigned. The law says that the State Treasurer shall not "loan any portion of the public moneys, securities, stocks, or other public property entrusted to him for any purpose whatever."

The vacancy in the office of Secretary of State was caused by the death of the Secretary, Hon. J. L. Power, Sept. 24. The Governor appointed his son, Joseph W. Power, to be acting secretary.

At the election, Nov. 5, there were 5 candidates for the office of Secretary of State. Joseph W. Power was elected by a majority of 1,475. There were 2 candidates to fill the vacancy in the office of Treasurer, and G. W. Carlisle was elected by a majority of 3,508.

MISSOURI, a Western Mississippi valley State, admitted to the Union Aug. 10, 1821; area, 69,415 square miles. The population, according to each decennial census since admission, was 140,455 in 1830; 383,702 in 1840; 682,044 in 1850; 1,182,012 in 1860; 1,721,295 in 1870; 2,168,380 in 1880; 2,679,184 in 1890; and 3,106,665 in 1900. This is an increase since 1890 of 15.9 per cent. The city of St. Louis had in 1900 a population of 575,238. Capital, Jefferson City.

Government.—The following were the State officers during the year: Governor, Alexander Monroe Dockery; Lieutenant-Governor, John Adams Lee; Secretary of State, Samuel B. Cook; Auditor, Albert O. Allen; Treasurer, Robert P. Williams; Attorney-General, Edward C. Crow; Superintendent of Schools, William T. Carrington; Railroad and Warehouse Commissioners, Joseph P. Rice, Timothy J. Hennessey, W. E. McCully; Superintendent of Insurance, Thomas H. Wagner; State Geologist, Ernest Robertson; Supervisor Building and Loan Associations, Luther S. Hickman; Commissioner of Labor Statistics and Inspection, William Anderson; Inspector of Coal-Mines, Charles Evans; Inspector of other mines than coal, George K. Williams; Warden of Penitentiary, Frank M. Woolridge; Beer Inspector, Gyles Y. Crenshaw; Special License Commissioner, Thomas J. Martin; Adjutant-General, William T. Dameron; Factory Inspector, Clement J. Nordmeyer; Judges of the Supreme Court—Gavon D. Burgess, Chief Justice; Theodore Brace, Waltour M. Robinson, William Champs Marshall, Leroy B. Valliant, Thomas A. Sherwood, James D. Gantt. The only Republican State officer is Waltour M. Robinson, justice of the Supreme Court.

The Legislature holds biennial sessions. The Senate is composed of 25 Democrats and 8 Republicans. The House is composed of 88 Democrats, 31 Republicans, and 1 Populist. James H. Whitecotton, Paris, is Speaker.

Finances.—The bonded debt of the State on Jan. 1, 1901, was \$1,887,000, showing a reduction during the preceding two years of \$1,755,000. It is in the form of 3½-per-cent. refunding bonds dated Jan. 1, 1888, due Jan. 1, 1908, and redeemable at the pleasure of the State after Jan. 1, 1893. The bonded debt of cities and towns on Jan. 1, 1900, was \$26,055,192. This has been increased \$5,000,000 as a result of the adoption of an amendment to the Constitution for the benefit of the Louisiana Purchase Exposition. County and township bonds to the amount of \$9,003,158.60 have been issued in 53 counties, while 68 counties have no bonded indebtedness. The State certificates of indebtedness amounted on Jan. 1, 1901, to \$3,158,000.

Valuation.—The assessed valuation of real and personal property is \$1,093,091,264. The valuation of St. Louis property is \$355,396,387, on a rate of 66½ of the actual value. The farm areas are 41,479,159 acres, and the average assessed valuation is \$7.89.

Railroads.—The mileage of steam roads is 6,762 miles; increase since 1897, 113.26 miles; total valuation for taxation (1901), \$76,857,661. The mileage of street roads is 551 miles; valuation for taxation, \$21,171,431.

Insurance.—There are doing business in the State 135 stock fire insurance companies, 14 mutual fire, 39 stock miscellaneous, 3 assessment life, 7 stipulated premium, 4 association casualty, 82 fraternal, and 45 regular life. Life policies in force, 81,453; industrial, 358,456; issued during year, 22,075 and 156,745; claims paid, \$2,672,794 and \$532,131; premiums collected, \$6,653,099 and \$1,780,052. Stipulated premium life companies—policies in force Dec. 31, 1900, 3,804; amount, \$151,303; claims paid in 1900, \$135,200. Assessment life associations—certificates in force Dec. 31, 1900, 8,103; amount, \$15,752,600; assessments collected in 1900, \$126,206.04; claims paid, \$118,446.75. Assessment casualty associations—certificates in force, 1,848; amount, \$4,805,000; assessments collected in 1900, \$22,324,454; claims paid, \$10,247. Fraternal insurance in force Dec. 31, 1900, \$285,960,943.79; claims paid in 1900, \$2,464,924.

Education.—The State school fund amounts to \$3,158,973, the seminary fund to \$1,238,194.78, and the county, township, and district school funds to \$8,151,815.30. The State school system embraces the university, Agricultural College, School of Mines, 3 normal schools, 1 institute for colored teachers, 10,326 public schools, and 181 high schools and seminaries.

The State University, at Columbia, has 7 departments—academic, normal, law, medicine, military science and tactics, agriculture, and me-



ALEXANDER M. DOCKERY,
GOVERNOR OF MISSOURI.

chanic arts. The School of Mines and Metallurgy is at Rolla. The enrolment at Columbia is 1,038, and at Rolla 168.

The enrolment of the Normal School, at Kirksville, is 834; at Warrensburg, 863; and at Cape Girardeau, 402. Lincoln Institute is at Jefferson City. It has enrolled 146 males and 131 females.

State Superintendent Carrington reports 1,900 private institutions of learning, as follow: One sectarian university, 1 non-sectarian university, 36 sectarian colleges and academies and 17 non-sectarian, 14 professional schools, and 10 each separate male and female academies. Thirty-four private institutions are open to both sexes.

The enrolment of the School for the Blind at St. Louis in 1900 was: Boys, 61; girls, 64. The school has the largest Braille library in the United States. The estimated expenses for 1901-1902 were \$59,000. In the School for the Deaf and Dumb 350 students are enrolled. The estimated expense for 1901-1902 is \$147,000.

State Institutions.—The number of prisoners confined in the Penitentiary at the time of the last official report was 2,051. Number of white males, 1,267; white females, 17; colored males, 719; colored females, 48; persons of foreign birth, 116; native born, 1,935; serving life terms, 24. All the appropriation of \$80,000 made by the State for the support of the Penitentiary was returned, with \$50,000 additional saved from its earnings.

In the Reform School for Boys, at Boonville, there are 339 boys, of whom 110 were sent by the United States Government. Among them are a few Indians. The school biennially costs the State about \$45,000. It derives its maintenance from the counties from which the boys are sent.

The average annual expenditure for the Girls' Industrial School, at Chillicothe, is \$14,000.

There are 4 insane asylums—at Fulton, St. Joseph, Nevada, and Farmington—and a colony for the feeble-minded at Marshall. The last Legislature appropriated \$150,000 for the establishment of the Farmington asylum. The State also aids an insane asylum at St. Louis. The estimated annual expenses for the care of the insane and feeble-minded is \$160,600.

The estimated cost of the Confederate Home, at Higginsville, is \$46,000, and of the Federal Soldiers' Home, at St. James, \$20,000.

Agriculture.—The acreages and yields of the principal crops were as follow: Corn, acreage 6,400,000, yield 193,267,000 bushels; wheat, acreage 1,040,000, yield 1,600,000 bushels; oats, acreage 1,000,000, yield 30,000,000 bushels; flax, acreage 60,000, yield 540,000 bushels; timothy, acreage 2,218,000, yield 2,884,000 tons; cotton, acreage 64,200, yield 35,053 bales; tobacco, acreage 10,100, yield 758,000 pounds.

Legislation.—No question of purely State interest provoked so much discussion during the year as an amendment to the Constitution, which was adopted by the people in 1900, the principle of which was enacted into law by the Legislature in 1901. This law provided that the value of mortgaged property, less the value of the mortgage, should be taxed against the owner, and that the mortgage should be assessed against the holder. The law did not affect persons living in the State and loaning their money upon property within it, but it practically required those living in other States and loaning their money in Missouri to pay taxes on their mortgages twice—in the States in which they lived and in Missouri. The adoption of the amendment and the subsequent passage of the law were followed by the refusal of outside investors to make further loans in the State at the old rates, and by the with-

drawal of large sums of money. There was a practical suspension of all money loaning business, and real-estate values went down, while interest rates advanced from 4 to 12 per cent, all over the State. The real-estate and loan men finally met in Kansas City for a national organization, and prepared to fight the law. They proposed to attempt to invalidate it, and found that the preliminary steps for it had been taken to the people were not properly taken. This reasoning applied equally well to the other amendments adopted at the same time, however, and would have prevented the \$5,000,000 appropriation for the world's fair at St. Louis. A case was finally taken up from St. Joseph, in which it was contended that the amendment violated the terms of the Federal Constitution prescribing equality of taxation. The Supreme Court upheld the contention, and the amendment was annulled without prejudice to the others that were adopted with it.

The Legislature met Jan. 1 and adjourned March 9. Among the other measures passed were: A law creating a State board of arbitration, a law describing a system of registration to be used by party caucuses and conventions, and a law providing for apportionment of delegates and fixing other rules for the holding of conventions other than those for elections in cities of fewer than 300,000 inhabitants.

MONTANA. a Western State, admitted to the Union Nov. 8, 1889; area, 146,080 square miles. The population, according to each decennial census since admission, was 132,519 in 1890 and 243,329 in 1900. Capital, Helena.

Government.—The following were the State officers in 1901: Governor, Joseph K. Toole; Lieutenant-Governor, Frank Higgins; Secretary of State, George M. Hays; Auditor, J. H. Calderhead; Treasurer, A. H. Barret; Attorney-General, James Donovan; Superintendent of Education, W. W. Welch. These officers were elected on a fusion ticket of Democrats and Populists. Other officials were: Commissioner of Agriculture, Judson A. Ferguson; Adjutant-General, Lee McCulloch; Land Register, Thomas D. Long; State Examiner, William Hudnall; Coal-Mine Inspector, Howard Welch; Game Warden, W. F. Scott; Chief Justice of the Supreme Court, Theodore Brantley, Republican; Associate Justices, G. R. Milburn, W. T. Pigott, Democrats; Clerk, Henry G. Rickerts, Democrat.

The State officers are elected for terms of four years at the time of the presidential elections. The term of justices of the Supreme Court is six years. The Legislature meets biennially in January of the odd-numbered years.

Census Figures.—A census bulletin shows that, of the total population of the State, 149,842 are males and 93,487 females. This makes the percentage of male population 61.6. Of the population, 176,262 are native born and 67,067 foreign born. There are 1,523 negroes in the State, 1,738 Chinese, 2,441 Japanese, 597 Indians who pay taxes, and 10,746 who do not. There are 39 Chinese women in the State, 7 Japanese women, and 5,686 squaws.

Finances.—The report of the Treasurer for the year ending Nov. 30 shows receipts from all sources of \$1,343,838.75, and disbursements of \$1,303,779.04. The amount on hand was \$544,686.87.

The revenues of the Auditor's office for the same time were \$69,797.07, compared with \$59,027 the previous fiscal year. The insurance companies paid the larger amount of this sum as follow: Admission fees of 16 companies, \$4,800; filing of annual statements, \$3,150; certificates of 1,833

agents, \$9,175; licenses, \$46,546.47. Building and loan associations paid \$120.

The receipts of the Secretary of State's office were \$20,409.15, against \$13,532 in 1900. The State Land Office showed receipts of \$292,129, against \$200,275 the previous year.

The total amount collected by the counties in 1900 for occupation licenses was \$547,806.37. Of this 70 per cent. went to the county funds, 5 per cent. to the wolf bounty fund, and 25 per cent. to the State general fund.



JOSEPH K. TOOLE,
GOVERNOR OF MONTANA.

Valuations.—The taxable property of the State amounts to \$167,087,653, which is an increase of about \$14,000,000 over that of 1900. The total value of the real property is \$79,602,029 and the personal \$71,699,893, while the rail-

roads are assessed at \$15,485,761. In 1900 the railroad valuation was \$15,100,000.

The Attorney-General decided in July that the law requires telephone companies to pay an annual tax of 75 cents a year on every instrument in use, except those that are used in interstate business.

Education.—The State Normal School, at Dillon, graduated a class of 5 in June, making 21 in all that the institution has sent out. During the year covered by the report 129 pupils attended; the highest daily attendance was 71; of the whole number reported, 28 were pupils of the summer school.

The State University has registered constantly increasing numbers since its first year, 1895, when there were 118 pupils. In 1901 there were 253. The amount received from the Legislature, \$35,765, was all expended, with claims of about \$800 unprovided for.

The School of Mines, opened in 1900, had an attendance of 59 in December. Its appropriation of \$32,861 has been expended. A new department—mining engineering—has been established; the chair was endowed by Charles W. Clark.

At the State College of Agriculture, at Bozeman, has been instituted a course of about eleven weeks in winter for those desiring practical study in farming who can not remain through the year. The local board has been anxious to secure for present use the money in the college fund which was kept in the State treasury for the purpose of paying the interest and principal of the bonds, and asked permission of the State Board of Education to bring a friendly suit to determine whether the money could be applied to the expenses of the institution.

The last annual report of the superintendent shows that teachers receive relatively high salaries in the State, the average for men being \$130 monthly and for women \$80.

A memorial library was dedicated at Billings, Oct. 1, the gift of Frederick Billings, of New York, in memory of his brother, Parmly Billings, son of the late Hon. Frederick Billings, in whose honor the town was named.

The annual apportionment of State school funds

in February distributed \$105,842.20. In 1900 the amount was \$80,428.50. The superintendent is taking measures to enforce the compulsory education law, requiring at least twelve weeks of schooling for every child between eight and fourteen.

Charities and Corrections.—Since the Soldiers' Home, at Columbia Falls, was opened in 1897, 120 have been admitted, 23 have died, and 67 were remaining in May.

The insane asylum has about 480 inmates, 130 of them women.

The Orphans' Home closed the year with 104 inmates, an increase of 12 over the year next preceding. The average cost of maintenance was \$3.33 a week. The whole cost was \$18,459.

The Children's Home Society showed receipts amounting to \$2,889.89, and disbursements of \$2,554.71. The superintendent had charge of 58 children during the year, of whom 31 were new ones, and 27 former inmates. The average number at the home was 8. Since it was started the home has had charge of 178 children.

There were in December 404 convicts in the Penitentiary, of whom 1 was a white woman and 4 were colored women. The authorities say that lack of employment is the chief criticism to be made upon the institution, and they desire a change in the Constitution of the State which has a provision to prevent convict labor.

Products and Industries.—From a census bulletin on manufacturing industries it is learned that the number of establishments in the State in 1900 was 1,080, while in 1890 there were but 289. The percentage of increase in population is less than a third of the percentage of increase in the number of establishments during the past ten years. The population increased 75.2 per cent.; the increase in manufacturing establishments was 273.7 per cent. The value of products, including custom work and repairing, in 1890 was \$5,507,573, and in 1900 \$57,075,824. Anaconda, Butte, Great Falls, and Helena furnish 43.7 per cent. of the establishments of the State. The average number of wage-earners increased in the decade from 2,386 to 10,101, and the total wages from \$1,652,413 to \$7,956,830. Slaughtering, wholesale, is reported in 1900, with a product of \$934,640. The manufacture of malt liquors has increased from a product valued at \$204,645 in 1890 to \$1,276,331 in 1900. This industry has been stimulated by the quality of the barley grown in certain parts of the State. The lumber product was valued at \$2,949,992.

The report of Wells, Fargo & Co. credits Montana with an aggregate production of metals in 1900 of \$67,987,150 value. The gold product, as estimated by the Director of the Mint, was \$4,698,000; the silver, \$8,901,148. Oil has been discovered in the Kintia lake region.

The total production of the 21 coal-mine properties of Montana in 1900 was 1,693,773 tons of bituminous coal, valued at \$2,369,054. In that year the companies operating the coal-mines paid for labor \$1,743,052. The total coal acreage owned by organized companies and individuals amounts to 16,069 acres, 1,900 of which is regarded by the owners as worked out and having but little value as far as the deposit of coal is concerned.

The production of coke in Montana during 1900 amounted to 54,692 tons, valued at \$318,871.07. In all, 228 ovens were in operation.

The number of sheep in the State in 1901 was 4,527,000; it was estimated that \$4,000,000 was received for wool and pelts.

Insurance.—During the fiscal year closing May 17 new insurance companies were licensed

to do business in Montana. According to the statement of the Auditor 79 fire insurance companies wrote risks to the amount of \$45,001,910, for which they received gross premiums of \$925,339. They paid losses aggregating \$525,252, of which \$487,026 were incurred in 1900. Risks carried by the fire companies at the close of last year amounted to \$20,260,168. Nineteen life companies increased their risks by nearly \$3,000,000, making an aggregate of \$29,813,479. Insurance to the amount of \$6,155,612 was written. For this premiums to the amount of \$962,311 were received. The losses incurred amounted to \$222,824. Miscellaneous companies, including 16 accident, liability, boiler, and glass companies, wrote risks amounting to \$4,774,494, for which they received premiums of \$1,183,188. These incurred losses amounting to \$68,307, and paid losses of \$64,746. They carried risks aggregating \$7,633,897 at the end of the year.

Banks.—A table prepared by the Auditor in September shows that the State banks, with the exception of the *Ætna* (a new company in Butte, which did not report), have a capital stock of \$1,190,000, deposits of \$10,582,377.40, cash on hand \$1,379,470, and total resources \$13,337,791.77.

Irrigation.—An important public work was dedicated in October when the Dearborn irrigating canal was filled with water and opened for use. It is the first one built under the Carey act of Congress and the act created the State Arid-Land Grant Commission. The Dearborn valley is about 50 miles north of Helena, with Dearborn river on the south, Sun river on the north, Missouri river on the east, and the Rocky mountains on the west—a territory of about 782 square miles. The canal begins a short distance up the Grand Cañon of Dearborn river, diverting its waters and carrying them over the hills to Summit lake, where they are divided into smaller canals and streams, from which they are distributed to the small valleys known as Flat creek, Auchard creek, Dry creek, Simms creek, and Spring Coulee. The Dearborn Canal system comprises about 100 miles of main waterway, with several hundred miles of laterals. The reservoir system covers about 3,000 acres, with an average depth of 20 feet storing 60,000 acre feet. The main canal is 38 feet wide and 5 feet deep, with an average grade of 3.1 feet to the mile. Subsidiary canals range from 16 feet wide, on the bottom, to 7 feet.

Timber-Land Frauds.—It is alleged that great frauds have been committed to secure timber and stone lands in Montana and Idaho. The law provides that any citizen may file on 160 acres of timber land by paying \$2.50 an acre; but in making proof on his claim he must make affidavit that he is not taking the land for speculation, and that he has made no arrangement to sell to a second party. It is charged that agents of certain large proprietors induced numbers of persons to take lands on these conditions and transfer them to their principals, paying each locator \$100 above the cost of the land and other expenses. The Government has brought suit to recover the lands and the value of the timber that has been taken from them, and 102 indictments for perjury were found against individuals who secured lands in Montana by swearing falsely.

Lawlessness.—A white man alleged to have assaulted a girl of five years was taken from the jail at Helena in the early morning of Oct. 2, by a mob of about 200 masked men, and hanged to a telegraph-pole in Haymarket Square. A grand jury was called to investigate the lynching, and after several days' session, during which

38 witnesses were examined, the jury reported that it had been unable to procure sufficient evidence to find any indictments. It recommended the dismissal of the jailer who delivered the accused to the mob, and of one policeman found to have been derelict in duty.

Legislative Session. The regular session of the State Legislature began Jan. 7 and ended March 7. In the Senate were 18 Democrats, 9 Republicans, 1 Populist, and 4 Independent Democrats; in the House, 27 Democrats, 10 Republicans, 6 Populists, 9 Labor party, and 5 Independent Democrats.

George H. Stanton was President *pro tem.* of the Senate, Frank E. Corbett was Speaker of the House, and John Baker Speaker *pro tem.*

The new State administration was inaugurated Jan. 13.

Two Senators were to be elected—one for the seat to which W. A. Clark was elected by the Legislature of 1899, for the term ending in 1905, the other to succeed Senator Carter, for the term ending in 1907. W. A. Clark was elected Jan. 16 for the long term, by a vote of 57 against 31 for T. A. Carter, 4 for M. Maginnis, and 1 for R. B. Smith. The ballot for Senator for the short term continued through the session. On the sixty-sixth ballot, March 8, Paris Gibson was chosen by 47 votes against 33 for T. H. Carter, 11 for John MacGinniss, and 1 for H. L. Frank; the two last-named had withdrawn before the final ballot was taken.

Among the important measures passed was a bill making eight hours a legal day's work in all smelter-mills and underground mines. Another bill in the interest of miners was to prevent dealing in time-checks and the coercion of employees of companies that carry on general merchandise stores in connection with their mines or smelting-works. Wages are to be paid in lawful money or by bank-checks, and unpaid wages may not be assigned to employers.

The law against gambling, making it a felony punishable by imprisonment, was repealed, and a new law was passed limiting the punishment to a heavy fine. Proprietors of places having slot-machines are also subject to fine. The law provides that officers may break into suspected places to search for gambling devices and arrest gamblers.

In cities of more than 10,000 inhabitants the Governor is to appoint 6 park commissioners for terms of two years.

The offices of game and fish warden and coal-mine inspector were created. The Governor appoints the warden. No one is eligible to the office of coal-mine inspector unless he is at least thirty years old, has been engaged in coal-mining the ten years prior to his appointment, has a competent knowledge of all the systems of coal-mining and working and properly ventilating coal-mines and the nature and constituent parts of noxious gases of coal-mines and the various ways of expelling them from mines, and is a graduate of some recognized school of mines and holds a diploma, which shall be deposited with the Governor before appointment. Further, it is to be his duty, when he is not engaged in examining coal-mines, to inspect quartz-mines, if called upon by the Governor to do so. The term of office is four years, and the salary \$2,000.

A State board of health was created, to consist of the Governor, the Attorney-General, 4 members appointed by the Governor, and a secretary appointed by the Governor or the board. A board of 3 osteopathic examiners was authorized.

The Land Commissioners are authorized to sell

\$70,000 of bonds for additional buildings to the State University, the interest of the bonds to be paid by the revenue from lands of the university grant. A women's hall and gymnasium is to be built with part of the money. For completing and equipping the normal-school building \$20,000 of bonds are to be sold. Appropriations were made as follow: \$32,900 for building the main wing of the Asylum for the Deaf and Dumb at Boulder; \$12,500 for finishing the State Orphans' Home; \$1,500 for machinery and other improvements at the Reform School; \$152,000 for completing the equipment of the new State-House; \$2,000 for farmers' institutes.

Other acts were:

Changing the conditions under which foreign corporations may transact business in the State. Requiring that all bonding propositions submitted to the people be on separate ballots.

Making the school tax 2 mills (formerly 3 to 5), and providing that the tax for a special fund may not exceed 5 mills, instead of 10 as formerly; the decision to be with the school board, not with the electors as heretofore.

Empowering school trustees to issue bonds without submitting the propositions to the voters.

Allowing only taxpayers to petition for a change of county-seats.

Providing a penalty for voting at primaries of two political parties.

Prohibiting railroads from making tunnel charges, except for travel to or from points outside of the State.

Requiring a physician's or coroner's certificate for burial.

Requiring candidates for examination in dentistry to have practised or studied under supervision five, instead of three, years, or to be graduates of a reputable dental college.

Providing that a ton of mineral coal be 26½ bushels instead of 28 as formerly, and each bushel 76 pounds instead of 80.

Permitting fruit inspectors to disinfect or destroy suspected material.

Providing bounties of \$5 on a grown wolf, a wolf pup or coyote, and \$7 on a mountain-lion. The State bounty fund to be raised by a three-mill tax on live stock.

Providing that live stock brought into the State for grazing must be taxed.

Providing that proposed public improvements may not be made if two-thirds the property owners file objections; sewers may be made on petition of one-third the frontage of property affected.

Defining kidnaping, detention of a child under eighteen (formerly fifteen) against his or his parent's will, with intent to conceal from the parent.

Providing that veteran soldiers and sailors need not pay for peddling licenses.

Amending the game-laws: "It is unlawful to kill at any time moose, bison, caribou, buffalo, quail, Chinese pheasant, mountain-sheep, antelope, female elk, beaver, meadow-lark, bluebird, thrush, oriole, woodpecker, mocking-bird, gold-finch, snowbird, cedar-bird, stork, or any of the other singing birds; and to dump any sawdust or *débris* coming from sawmills into any stream. Every non-resident who is not a taxpayer in the State is required to procure a hunter's license. The license for large game is \$25 and for small or feathered game \$15. One license does not entitle the holder to hunt both kinds of game."

It was proposed to place the \$30,000 alleged to have been paid as bribes and delivered to the Legislature in 1899 into the school fund, but it was finally ordered paid into the general fund.

Making a tax levy of 2½ mills.

Bills were passed forming two new counties—Powell from a part of Deer Lodge, and Rosebud from Dawson. Afterward the name of Deer Lodge was changed to Daly, and Powell to Deer Lodge. The Governor vetoed an apportionment bill, because it had been drawn without the necessary reference to these changes. In April the change of name of Deer Lodge County was declared unconstitutional by the Supreme Court.

A bill that caused a bitter struggle was one permitting actions to be taken from the district courts and appealed to the Supreme Court on the ground of interest or prejudice on the part of the lower court; and the Supreme Court or a judge thereof might stay all proceedings until the matter of the alleged interest or prejudice should be determined. The bill was alleged to be in the interest of a particular company, to enable it to remove its actions from the district court. It was passed, but was vetoed.

NEBRASKA, a Western State, admitted to the Union March 1, 1867; area, 77,510 square miles. The population, according to each decennial census since admission, was 122,993 in 1870; 452,402 in 1880; 1,058,910 in 1890; and 1,068,539 in 1900. Capital, Lincoln.

Government.—The following were the State officers in 1901: Governor, Charles H. Dietrich, elected United States Senator in March, and succeeded in May by Lieut.-Gov. Ezra P. Savage; Lieutenant-Governor (succeeding Ezra P. Savage), C. F. Steele; Secretary of State, George W. Marsh; Treasurer, William Stuefer; Attorney-General, F. N. Prout; Auditor, Charles Weston; Adjutant-General, J. N. Kilian, succeeded by William Hayward, who in turn was succeeded by L. W. Colby; Superintendent of Public Instruction, W. K. Fowler; Commissioner of Public Lands, G. D. Follmer—all Republicans; Chief Justice of the Supreme Court, J. J. Sullivan, Democrat; Associate Justices, S. H. Sedgwick, Republican, and S. A. Holcomb, Fusion; Clerk, Lee Herdman.

The State officers are elected in even-numbered years, the term beginning in January of odd-numbered years. The Legislature holds biennial sessions, beginning in January of odd-numbered years.

Finances.—The Treasurer's report for six months ending May 31 showed a total balance on hand Dec. 1, 1900, of \$607,878.22; receipts, \$1,884,781.30; disbursements, \$1,626,434.42; balance on hand May 31, \$866,225.10. The report of receipts and disbursements showed the condition of the general, permanent, and temporary school funds and the sinking-fund to be as follow: General fund—balance Dec. 1, \$49,594.46; receipts, \$630,879.97; disbursements, \$599,486.69; balance May 31, \$80,987.74. Permanent school fund—balance Dec. 1, \$105,968.68; receipts, \$673,982.71; disbursements, \$522,166.09; balance May 31, \$257,785.30. Temporary school fund—balance, Dec. 1, \$297,047.90; receipts, \$385,374.24; disbursements, \$307,822.83; balance May 31, \$374,599.31. Sinking-fund—balance Dec. 1, \$56,165.23; receipts, \$11,617.58; disbursements, \$67,782.81.

The last Legislature transferred the sinking-fund to the general fund.

The cash in the treasury June 30 was \$591,634.66. In June the Treasurer's receipts were \$352,725.35, while the disbursements were \$627,315.79.

The semiannual report of the Treasurer, made in December, showed the receipts of the treasury from all sources from June 1 to Nov. 30, 1901, to have been \$1,483,434.30; disbursements, \$1,796,184.98; cash in depository banks, \$535,295.22;

cash in vault, \$18,179.20; leaving a balance to the treasury of \$553,474.42. The Treasurer had then invested educational trust funds to the amount of \$459,000 in county bonds of the State, and \$780,250.72 in warrants, making a total investment in bonds and warrants of \$1,239,250.72 for the first eleven months of the year. The total amount of educational funds that were invested in bonds and warrants at the date of this report was \$4,967,456.88, which was \$492,955.44 larger than at the beginning of the administration. There was on hand, Nov. 30, in the temporary school fund \$313,041.62, to be apportioned to the school districts of



EZRA PERIN SAVAGE,
GOVERNOR OF NEBRASKA.

the State immediately after the close of business on Dec. 2, 1901.

Valuation.—The valuation of the State, as returned by the assessors and county clerks, not including Wheeler County, was \$174,124,632.20. Taking the valuation of Wheeler County for 1900, the total valuation of the State would be \$174,422,870.30. In 1900 the total assessed valuation was \$171,747,593.41, or \$2,675,276.89 less than in 1901. This is the first increase in the valuation for several years.

Education.—In the biennial report of the Superintendent of Public Instruction, Jan. 1, 1901, were special reports from 72 counties showing that there were 7,364 teachers in those counties, the number then required being 6,943, indicating that more than 94 per cent. of those receiving teachers' certificates in Nebraska are actually needed to teach the schools. While the State Normal School, at Peru, is doing excellent work, its capacity should, the report says, be greatly enlarged.

The number of students in all departments at the State University at the end of 1901 was 2,256; instructors, 220; volumes in the library, 51,000. The September enrolment of more than 1,300 showed a slight gain compared with 1900. Courses were pursued at the summer session of the university, open to all who pay the entrance fee of \$2, but intended specially for teachers and superintendents.

The report of the Nebraska Institute for the Deaf and Dumb for 1899 and 1900 states that a new building was occupied in March, 1900, relieving the previously crowded condition of the school. The present buildings will accommodate 200 pupils. The number Nov. 30, 1900, was 165.

Products and Resources.—According to a report of the secretary of the State Board of Agriculture, the value of all the soil products in 1900 was about \$200,000,000. More than 1,000,000 tons of hay were harvested. The corn-crop, as well as others, was injured in 1901 by the prolonged drought, but the estimates at the end of the year indicated a good showing. Increasing attention to fruit-growing in the State is leading to satisfactory results. Reports in 1901 from the experiment stations recently established by the Nebraska

Horticultural Society show that their work has been of practical benefit to this industry.

An examination of the growth in Nebraska has been made by the United States Department of Agriculture, with a view to determining whether forest production on a large scale is possible in the State. The people of Nebraska are deeply interested in tree planting, and the State Park and Forestry Association was especially active during the year in disseminating information regarding species of trees suitable to the soil and climate of the State. In February, 1901, Gov. Dietrich issued an Arbor Day proclamation.

Alfalfa is now profitably grown in almost every county, and other forage plants still more largely, and these form a most important part of the annual products.

The report of the secretary of the State Dairymen's Association says that in 1900 more than 9,000,000 pounds of creamery butter were made in Nebraska. In June, 1901, the State Food Commissioner declared that the dairying business in Nebraska has taken a new start. This he attributes mainly to the fact that by means of the separators now in use (hand and power) one-third more of butter fat is obtained than formerly.

The growth of the sugar-beet is becoming yearly more important among Nebraska farmers. The sugar factory at Fremont in 1900 handled 100,000 tons of beets, the largest yearly quantity in its history.

The State Oil Inspector reported the number of barrels of oil and gasoline inspected by him in 1900 as 162,884; fees, \$16,284.40. In May, 1901, he reported inspection since Jan. 1 of 53,553 barrels; fees, \$5,355.30. To this statement the inspector adds: "I am pleased to report that not only has this department been self-sustaining, but after paying all salaries and expenses, balances paid to the State Treasurer for account of the general fund during two years amount to \$11,142.51."

There are indications that it will not be very long before great profit will accrue to the people of this State from the utilization of its extensive beds of clay, belonging to the Dakota formation, which occupies a strip in eastern Nebraska 200 miles long and 30 miles wide. At Table Rock a company is now turning out annually 5,000,000 bricks from a clay bank in the vicinity. There are hundreds of workable banks along the west bluff of the Missouri.

Irrigation and Agricultural Engineering.—The State Engineer has published a report to August, 1901, which shows nearly 4,000 miles of canals; estimated cost, \$4,773,984; acres covered, 1,698,831; estimated increase in land value, \$16,988,310, obtained by adding \$10 an acre to all land under irrigation. Fifty-four of the 90 counties have irrigation canals. In some counties the canals are less than one mile in length. The only one in Lancaster County is three-tenths of a mile long, and is used to water a celery field.

Legislative Session.—The session of the Legislature opened Jan. 1, and was organized by the Republican majority. On joint ballot the Republicans had 71 votes and the fusionists 62. One of the chief duties of this Legislature was the election of 2 United States Senators to succeed Senators Allen and Thurston. After a prolonged deadlock, during which more than 50 ballots were taken, Gov. Charles H. Dietrich was elected for the term expiring in 1905, and Joseph H. Millard for the term that expires in 1907.

Among the more important acts was a new and stricter game-law. The intent is to extend the protection of the law to new species of game and

song and insectivorous birds, to restrict the open season during which game may be killed, and to provide for more effective means of enforcing the law.

A compilation of the appropriation bills passed shows a total appropriation of \$2,789,590.01 for the biennium, or \$187,334.43 more than was appropriated by the former Legislature. Nearly all the State institutions received an increased amount. Some of the institutions received appropriations for new buildings and for the purchase of land.

A concurrent resolution was passed requesting Congress to call a convention for the purpose of proposing an amendment to the Constitution of the United States, providing for the election of United States Senators by direct vote of the people.

A law was passed for the registration and protection of trade-marks.

An inheritance-tax law was enacted.

Provision was made for a commission to investigate the Torrens system of registration for better securing title to real estate.

Another measure provides for traveling libraries.

Many new school laws were passed.

A law was enacted prescribing severe penalties for kidnaping and child-stealing.

Legal Decisions.—In December the Supreme Court of the State revived the law of 1897, which confers power upon the Governor to appoint fire and police commissioners for the city of Omaha. A law passed by the last Legislature empowers county boards to make and enforce quarantine regulations, and the Attorney-General in November asserted that reasonable regulations under this act will have the force of laws, and that county boards may detain, without bail, persons having infectious diseases. The boards may also maintain hospitals.

Lawlessness.—A young man, living on a farm near Humboldt, who had been accused of expressing satisfaction at the assassination of President McKinley but who denied the charge, was, on the night of Sept. 17, decoyed from his home, deprived of his clothing, and tarred and feathered by a mob. A local paper said, that "after telling the victim to go home, and warning him in future to be more careful of his utterances, the crowd, which numbered about 40, quietly dispersed."

Penitentiary.—The new officers of the Penitentiary entered upon their duties at the beginning of 1901 under trying circumstances, the institution having then recently suffered from a serious fire. But means were devised for proper care of the convicts, and an appropriation by the Legislature for rebuilding was applied, new steel cells were procured, and the 300 prisoners are reported to have proved tractable during a period when ordinary discipline was a matter of unusual difficulty.

State-Fair Grounds.—An appropriation of \$35,000 was made by the last Legislature for the purchase of permanent grounds for the State Fair, and land was bought at Lincoln. The fair of 1901 was unusually successful.

Banks.—The secretary of the State Banking Board made a tabulation showing the condition of State and private banks, including savings-banks, at the close of business March 4, 1901. The total number of banks was 417. A comparison of the report with that of March 12, 1900, shows an increase in the following items: Loans and discounts, \$1,750,935.68; legal reserve, \$3,653,864.95; surplus and profits, \$186,083.60; general deposits, \$5,851,163.35; and a decrease in redis-

counts and bills payable of \$392,301.10. A comparison with the report of Dec. 13, 1900, shows an increase in the following items: Loans and discounts, \$1,193,234.93; legal reserve, \$922,666.18; general deposits, \$2,311,992.67.

Insane Hospital.—Sept. 23, 1901, a fire destroyed a portion of the hospital for the insane at Norfolk, and 2 patients were burned to death.

Political.—The Republicans were generally successful at the State and county elections last November, electing their candidates for Associate Justice of the Supreme Court and regents of the University of Nebraska. S. H. Sedgwick, for Justice of the Supreme Court, received 98,993 votes, against 86,334 for his opponent on the fusion ticket.

NEVADA, a Western State, admitted to the Union Oct. 31, 1864; area, 110,700 square miles. The population, according to each decennial census since admission, was 42,491 in 1870; 62,266 in 1880; 45,761 in 1890; and 42,335 in 1900. Capital, Carson City.

Government.—The following were the State officers in 1901: Governor, Reinhold Sadler; Lieutenant-Governor, James R. Judge; Secretary of State, Eugene Howell; Treasurer, D. M. Ryan; Comptroller, Samuel P. Davis; Attorney-General, William Woodburn; Surveyor-General, E. D. Kelley; Superintendent of Public Instruction, Orvis Ring; Adjutant-General, J. R. Judge, *ex officio*; Chief Justice of the Supreme Court, William A. Massey; Associate Justices, Charles H. Belknap, A. L. Fitzgerald; Clerk, Eugene Howell, *ex officio*. All are of the Silver party except Superintendent Ring, who is a Republican. W. D. Jones resigned as Attorney-General, and Gov. Sadler appointed William Woodburn.

State officers are elected in November, once in four years. The next State election will be in 1902. An associate justice of the Supreme Court is elected in the alternate even-numbered years.

Education.—The school population is 9,130. The semiannual apportionment was \$69,918.43. The appropriation for the Nevada Indian School, which has 251 pupils, is \$33,400. The Government has allowed for the year 1901 \$12,200 for a new water system, \$3,500 for light and steam system, and \$2,500 for general repairs.

Finances.—The treasury, Dec. 31, 1901, had \$270,020.74 in coin. The State fund securities were: Irredeemable State school funds, Nevada 4-per-cent., \$253,100; Nevada 5-per-cent., \$380,000; United States 4-per-cent., \$825,000; total, \$1,728,120.74. In 1901 the Bond Commissioners redeemed \$25,000 worth of bonds and issued \$15,500. The Nevada war claims against the Government amount to \$462,000. The annual report of the Treasurer shows that the State is better in a financial way than it has been for some years.

Land.—The grants to the State were 2,732,884.70 acres, of which 33,000 acres are still due the State. There are 1,250,000 acres under contract at 6 per cent. per annum. The State has 400,000 acres of reverted lands, the greater part of which are for sale at \$1.25 an acre. The State has issued patents for 825,000 acres. There are approximately 61,250,000 acres of land owned by the General Government in the State.

Products.—The number of cattle in the State is estimated at 50,000, and the sheep from 5,000,000 to 7,000,000. The wool-clip was estimated at 7 pounds a head.

The latest mining discovery in this State is the Tonopah mines, in Butler, Nye County. The first settlement and work was begun a year ago. By Jan. 1 of this year the population was 80; by May 1, 225; now it is easily 1,000; and it is the

leading mining town of Nevada in the output of gold and silver. James L. Butler, the discoverer, brought no money into the desert to make a mine. He paid for his first assays by a deed to a twelfth interest in what he had found. The men who took first lessons from him were working miners, with no capital but knowledge, strength, and skill. The last returns received were of Nov. 2, 1901. For the first five days preceding the net returns amounted to \$40,562.14. The gold and silver product for this year is estimated at nearly \$4,000,000. The amount of gold, copper, lead, and antimony was greater than in any previous year.

Political.—The Republican State Central Committee met Dec. 27 and selected Aug. 14, 1902, as the day for the next State convention to be held at Reno.

The Legislature convened in Carson City on Jan. 21, 1901, and was in session fifty-five days, adjourning March 16. The Senate was presided over by Lieutenant-Governor James R. Judge and Senator J. H. Martin, president *pro tem*. The House elected C. D. Van Duzer, of Humboldt County, Speaker, and H. H. Coryell, of Elko County, Speaker *pro tem*.

NEW HAMPSHIRE, a New England State, one of the original thirteen, ratified the Constitution June 21, 1788; area, 9,305 square miles. The population, according to each decennial census, was 141,885 in 1790; 183,858 in 1800; 214,460 in 1810; 244,022 in 1820; 269,328 in 1830; 284,574 in 1840; 317,976 in 1850; 326,073 in 1860; 318,300 in 1870; 346,991 in 1880; 376,530 in 1890; and 411,588 in 1900. Capital, Concord.

Government.—The following were the State officers during the year: Governor, Chester B. Jordan; Secretary of State, Edward N. Pearson; Treasurer, Solon A. Carter; Adjutant-General, Augustus D. Ayling; Insurance Commissioner, John C. Linehan; Labor Commissioner, Lysander H. Carroll; Superintendent of Public Instruction, Channing Folsom; Bank Commissioners, Alpheus W. Baker, John Hatch, George W. Cummings; Railroad Commissioners, Henry M. Putney, Francis C. Faulkner, E. B. S. Sanborn; State Librarian, Arthur H. Chase; Chief Justice of the Supreme Court, Isaac N. Blodgett; Associate Justices, William M. Chase, Frank N. Parsons, Reuben E. Walker, James W. Remick; Chief Justice of the Superior Court, Robert M. Wallace; Associate Justices, Robert J. Peaslee, Robert G. Pike, John E. Young, Charles F. Stone; Attorney-General, Edwin G. Eastman.

The State elections are held biennially in November of even-numbered years. The Legislature meets in January of odd-numbered years.

Finances.—The cash in the treasury June 1, 1900, was \$456,527.32; receipts during the year, \$1,273,657.35; total, \$1,730,184.67. The disbursements during the year ending June 1, 1901, were \$1,282,277.65; cash on hand at same date, \$447,907.02; total, \$1,730,184.67. The liabilities June 1, 1900, were \$1,912,792.99; assets same date, \$793,994.05; net indebtedness June 1, 1900, \$1,118,798.94. Liabilities June 1, 1901, \$1,793,795.36; assets, \$785,162.45; net indebtedness June 1, 1901, \$1,008,632.91. The reduction of debt during the year was \$110,166.03.

Banks.—Under the supervision of the Bank Commissioners are 77 savings-banks, 11 banking and trust companies, 2 State banks, and 18 building and loan associations. The savings-banks and savings departments of the trust and banking companies in active operation show aggregate resources, June 30, 1901, to the amount of \$66,899,698.45. Due depositors, \$57,128,616.76, show-

ing an increase during the year of \$8,231,905.97; the guarantee fund, \$24,171,620.12, an increase during the year of \$2,478.55; the premium on bonds and stocks, \$1,578.57. The aggregate of interest dividends for the year was \$1,650,983.39, the average rate 4.25 per cent. The number of depositors, 1,142,160, an increase during the year of 112,160.

Railroads.—The combined length of the steam railroads in New Hampshire was 1,931 miles, of which the Boston and Maine carried 1,037.15, the Maine Central 100.13, and the Granite Trunk 52.06. The addition during the year was the Manchester and Milford branch, 18.54 miles. The tracks of these roads have an aggregate length of 1,708 miles.

In 1901 the earnings of the Boston and Maine and the Fitchburg roads (the latter now in possession of the Boston and Maine) were \$30,800,914.84, a gain of \$427,710.19 over 1900; and the operating expenses of the combined roads were \$21,522,187.38. The Maine Central's transportation earnings in 1901 were \$5,896,346.61, a gain of \$255,622.93 over 1900; and its operating expenses were \$3,962,338.90. The Atlantic and St. Lawrence earned \$1,457,632.96 in 1901, a gain of \$178,571.57; and its operating expenses were \$1,319,613.63.

In 1901 the Boston and Maine and Fitchburg roads carried 38,496,814 passengers an average of 16½ miles each, and 17,516,571 tons of freight an average of 87.82 miles per ton; the Atlantic and St. Lawrence carried 295,774 passengers and 1,708,897 tons of freight; and the Maine Central carried 2,633,331 passengers, and 3,740,709 tons of freight. The New Hampshire business over these roads was substantially the same as in 1900.

There are 185 miles of street-railway in the State with a total capitalization of \$4,288,934.

Insurance.—The report for 1900, issued May 1, 1901, shows the withdrawal of 5 companies from the State, and the admission of 7, all but 1 conducted on the stock plan. The number of companies now doing business in New Hampshire is 119—89 stock companies and 30 mutual companies.

The total business of all authorized companies in New Hampshire for the year is as follows: Risks written, \$102,949,565.76; premiums received, \$1,297,844.40; losses paid, \$831,675.33. In comparison with the business of 1899, there has been a decrease in risks written of \$724,615.30; a decrease in premiums received of \$70,344.53; and an increase in losses paid of \$84,346.43.

Agriculture.—The State grange held its twenty-eighth annual session in Concord, Dec. 17 and 18, with an attendance of nearly 300 voting members and delegates, and with State Master N. J. Batchelder in the chair. In his address he said: "Contrary to the quite common belief outside the State, there has been no decline in agriculture. The changed methods of farming have caused a moderate decline in acreage of improved land, that not adapted to the use of machinery being turned to pasturage, or devoted to growing wood or timber, but the cash value of the annual farm-products was never equal to that of the present time."

The census returns recently issued give the number of farms as 29,324, with a cash value of \$70,124,360, about equally divided between the value of buildings and the value of lands and improvements other than on buildings. Live stock and machinery swell the total value of farm property to \$85,842,096.

The present membership of the grange is 24,208, of whom 12,045 are men and 12,163 women, a net

gain during the year of 521. There are 17 Pomona granges, with a total membership of 7,355. The resources of the State grange are \$16,841.22; of the subordinate granges, \$103,100; and of Pomona granges, \$5,000.

Manufactures.—In 1900 the number of persons in the State engaged in all branches of manufacturing was 70,419. Since 1850 the population of New Hampshire has increased only 29.4 per cent., but the number of wage-earners in manufacturing has increased 159.9 per cent. In 1850 the gross value of the product of New Hampshire manufacturing was \$23,164,503. This had grown in 1900 to \$118,669,308. Eliminating the value of all materials purchased in a partly manufactured form, it is found that the net value is \$77,225,568. The boot and shoe industry now holds first place in New Hampshire manufacturing, the product in 1900 being worth \$23,405,558, while the value of cotton goods in the same year was \$22,998,249. The cotton and woolen industries are barely holding their own, the product of the latter being \$10,769,240 in 1900. Wool manufacturing, however, is still third in importance in the State. Other interests rank as follow: Lumbering, paper and wood pulp, foundry and machine-shop industries, tanning and currying of leather, hosiery and knit goods, flour and grist milling, and the factory production of cheese, butter, and condensed milk. A large proportion of New Hampshire's manufacturing is located in the southern portion of the State, not far from Massachusetts and the seaboard.

Dartmouth College.—On Sept. 24 and 25 the college celebrated the one hundredth anniversary of the graduation of Daniel Webster. Webster was not only the most notable graduate of the institution, but he rendered it a lasting service by defending it in the Supreme Court of the State and nation against the attempt of the State, in 1816-'19, to change its charter. In recognition of this fact and of his great public services the celebration was civic rather than academic, laying emphasis on his public relations and services to the country. The corner-stone of a new building, to be known as Webster Hall, was laid.

Education.—The employment of expert superintendents to manage the schools has gained in popularity. There are now 14 professionals devoting their entire time to this work, against 11 in 1900 and 8 in 1899. Of these, 8 have a single city each, 1 a single town, and 5 each a supervisory district. A high-school law was enacted by the last Legislature requiring towns not maintaining high schools to pay the tuition of their pupils in such high schools or academies as are approved by the State Superintendent of Public Instruction. The compulsory-attendance laws have been strengthened, and authority for their enforcement has been conferred upon the State superintendent. Towns of more than 5,000 inhabitants are required to maintain evening schools upon petition of 5 per cent. of the legal voters.

Summer Travel.—The most notable items concerning this important New Hampshire interest are, first, a liberal appropriation from the State for the building of a first-class and most attractive road from the Jefferson Notch to the Crawford Notch in the White mountains, running well up and along the western foot of the whole magnificent Presidential range; and, second, the building of a new and gigantic hotel, with every conceivable modern appointment and luxury, 4 miles from the foot of Mount Washington, on the line of the Mount Washington Railway, at a cost of \$1,250,000. The locations of both the road and the hotel are ideal.

Legislative Session.—The session of the Legislature began Jan. 2 and ended March 22, 1901, with 24 Senators (23 Republicans and 1 Democrat) and 397 Representatives (300 Republicans and 97 Democrats). Bertram Ellis was elected President of the Senate, and Cyrus H. Little Speaker of the House.

Chester B. Jordan was inaugurated, Jan. 3, the fifty-sixth Governor of the State and the forty-seventh person to fill the office.

In all, 243 bills (public and private) and 49 joint resolutions were passed. A few of the more important ones are here mentioned:

Guardians of minors and insane persons and trustees of estates may invest funds in certain defined steam-railroad shares.

Providing for the decrease in the number of State boards and commissions.

Public rights in New Hampshire to be protected. Providing for the restriction of communicable diseases.

To establish a laboratory of hygiene by the State Board of Health.

Regulating the sale of fertilizers.

Protection of lakes, ponds, and streams from pollution.

Providing for a judiciary system consisting of two courts—Supreme Court and Superior Court.

Revision of the fish and game laws.

For the protection of ornamental and shade-trees in the highways.

Providing for the care and education of feeble-minded children.

Providing for evening schools.

Defining the rights of husband or wife, surviving, in the estate of the deceased husband or wife.

Establishing the boundary-line between New Hampshire and Massachusetts.

NEW JERSEY, a Middle Atlantic State, one of the original thirteen, ratified the Constitution Dec. 18, 1787. Area, 7,815 square miles. The population, according to each decennial census, was 184,139 in 1790; 211,149 in 1800; 245,562 in 1810; 277,426 in 1820; 320,823 in 1830; 373,306 in 1840; 489,555 in 1850; 672,035 in 1860; 906,096 in 1870; 1,131,116 in 1880; 1,444,933 in 1890; and 1,883,669 in 1900. Capital, Trenton.

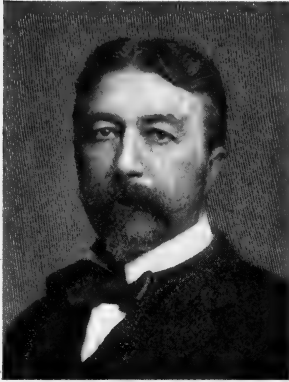
Government.—The State officers in 1901 were: Governor, Foster M. Voorhees; Secretary of State, George Wurts; Treasurer, George B. Swain; Comptroller, William S. Hancock; Attorney-General, Samuel H. Grey; Adjutant-General, Alexander C. Oliphant; Superintendent of Public Instruction, Charles J. Baxter; Commissioner of Banking and Insurance, William Bettle—all Republicans. Chief Justice of the Supreme Court, William S. Gummere; Associate Justices, Gilbert Collins, J. Franklin Fort, Jonathan Dixon, Mahlon Pitney, Bennet Van Syckel, Charles G. Garrison, Abram Q. Garretson, and Charles E. Hendrickson; Court of Errors and Appeals: Judges John W. Bogert, Gottfried Krueger, Frederic Adams, William H. Vredenburg, Peter V. Voorhees, and Garret D. W. Vroom. Chancellor, William J. Magie.

The Treasurer, George B. Swain, died Dec. 25.

A general election is held annually in November. The only elective State officer is the Governor, whose term is three years. The others, including the justices of the Supreme Court and the judges of the Court of Errors and Appeals, are appointed by the Governor, excepting the Treasurer and the Comptroller, who are appointed by the Legislature, which meets every year in January, the sessions not being limited.

Finances.—For the fiscal year ending Oct. 31, 1901, the receipts of the State fund, including bal-

ance from 1900, were \$5,832,033.45; disbursements, \$3,480,350.28; balance, \$2,351,683.17. The receipts of the school fund, including a balance from 1900, were \$759,680.87; disbursements, \$645,843.88; balance, \$113,836.99. The receipts from the State school tax were \$2,317,825; disbursements, \$2,317,825.



FRANKLIN MURPHY,
GOVERNOR OF NEW JERSEY.

The receipts of the Agricultural College fund were \$4,080, and the disbursements the same. The local tax on railroad corporations (received and disbursed) was \$405,589.85.

The principal disbursements were: Adjutant - General's department, \$10,496.34; Agricultural Experiment Station, \$19,000; Attorney-General's department, \$12,734.73; blind and feeble-minded, \$78,554.

14; Board of Fish and Game Commissioners, \$24,000; Bureau of Statistics, \$9,995.12; collateral inheritance tax, \$14,943.21; county lunatic asylums, \$198,431.63; Court of Chancery, \$76,823.37; Court of Errors and Appeals, \$11,891.90; deaf-mutes, \$43,000; banking and insurance, \$31,546.81; emergency, \$16,988.30; executive department, \$15,230.40; geological survey, \$13,000; Home for Disabled Soldiers, \$37,200; industrial education, \$43,000; inauguration of the President of the United States, \$10,000; law and equity reports, \$10,438.76; Legislature, \$88,169.24; loans to school fund, \$194,000; National Guard, \$106,841.74; Naval Reserve, \$14,543.47; Newark armory, \$50,000; New Jersey Home for Disabled Soldiers, Sailors, Marines, etc., \$15,198.61; New Jersey Reformatory, \$43,267.13; office of clerk in Chancery, \$33,679.33; office of clerk of the Supreme Court, \$22,937.37; office of the Comptroller, \$13,982.17; office of the Secretary of State, \$30,411.52; office of the Treasurer, \$13,407.23; Pan-American Exposition, \$27,500; printing, \$41,699.94; public roads, \$155,605; Quartermaster-General's department, \$12,089.86; Riparian Commission, \$12,477.58; State Board of Assessors, \$23,382.11; State Board of Health, \$15,737.68; State Board of Taxation, \$14,568.78; State Dairy Commissioner, \$13,000; State Home for Boys, \$61,195.61; State Home for Girls, \$38,464.83; State Hospital, at Trenton, \$78,409.34; State Hospital at Morris Plains, \$135,705.46; State-House Building Commission, \$50,000; State-House Commission, \$54,999.65; State-House Commission "Special," \$14,255.16; State Normal School, \$51,997.83; State Oyster Commission (Delaware Bay, etc.), \$17,155.42; State Prison maintenance, \$89,974.08; State Prison furniture, etc., \$11,670.40; State Prison salaries, \$99,795.29; State school tax, \$800,588.25; Supreme Court, \$107,248.84; Superintendent of Public Instruction, \$12,498.75; Tuberculosis Commission, \$10,490.95; Village for Epileptics, \$63,886.

The report of the Comptroller for the fiscal year ending Oct. 31, 1901, shows a cash balance in the treasury of \$2,351,683.17, the largest in the history of the State.

Corporation taxes for the year, amounting to \$800,588.25, appropriated from the surplus of the

State fund, reduced the school tax by about one-third.

Valuation.—The report of the State Board of Taxation, presented in November, shows an increase in the total State valuation over that of 1900 of \$27,181,456. Sixteen counties show a gain and 5 a slight loss. The counties showing a decrease were Burlington, Cumberland, Hudson, Salem, and Warren.

The total tax exemptions for the year were \$108,700,000, against \$104,000,000 in 1900.

Education.—The apportionment of school moneys by the State Board of Education for 1901-1902 distributed among the counties \$2,529,781.61.

The report of the State schools for the year shows a slight increase in the enrolment of the Normal School, at Trenton; 270 new students were received, and the limited accommodations prevented the admission of a larger number. The number of students enrolled in the year was 645, and 177 were graduated. The entire enrolment in September for the Normal and Model Schools was about 1,200, the Normal having its full complement and the Model a larger number than in former years. Changes have been made in the normal course, allowing a greater number of elective studies. The buildings of the Normal and Model Schools were thoroughly renovated this year.

At Trenton a new high school was dedicated in April, capable of accommodating 800 pupils. The cost of the lot and building was more than \$138,000.

An amendment of section 14 of the rules and regulations relating to the indorsement of certificates from other States was made by the State Board of Education in December, 1901, which requires two years of satisfactory teaching in New Jersey as a condition of such indorsement.

There were 6 graduates at the School for the Deaf in June. The building and grounds have been much improved. The average attendance for the year was 135.

State Institutions.—A new and commodious building, of modern design, was dedicated at the State Home for Girls in October, 1901. It contains quarters for the administration, and separate rooms for 60 to 100 girls. The underground dungeons formerly used here have been torn down, strait-jackets and straps abolished, other means of punishment modified, and moral influence more firmly established in the discipline. A report for the last year showed that all the 125 inmates were on the honor roll, and that not an escape had been made for a year and a half. These improvements have followed upon the execution of the new law for the government of the home passed by the last Legislature.

The annual report of the Board of Managers of the State Hospital for the Insane, at Trenton, submitted in December last, refers to the investigation of the hospital during the previous summer, and says: "The visits to the hospital by the board during the year, and the examinations of the conditions of the patients and of the buildings and grounds, demonstrate the untiring efforts both of the medical director and warden to promote the comfort of the patients, and the members desire to express their appreciation of the manner in which these officers have performed their duties. There were under treatment in the hospital last year 1,371 patients, 245 having been received during the year. Ninety-three patients were discharged as recovered, 23 as improved, 9 as unimproved, 90 died, 1 escaped, and 89 were removed to other institutions, leaving at the close

of the fiscal year 1,084 patients. This number is far in excess of the normal capacity of the institution."

The new wing of the State Hospital for the Insane, at Morris Plains, was formally opened in November. The new building, a quarter of a mile in the rear of the main structure, among the Morris hills, was begun in 1895 and completed at a cost of about \$325,000. It consists entirely of dormitories, and has accommodations for more than 1,000 patients. There were in December at this hospital 27 criminal insane and 69 convict insane. During the year 1,700 insane patients were under treatment. While the average of recoveries from 1881 to 1891 was 21 per cent. of the yearly admissions, from 1891 to 1901 it was 26 per cent., and for the last year 31.5 per cent., a ratio seldom attained in the history of institutions for the insane. The medical director accounts for this by the advance in hospital construction, better hygienic methods, employment of trained nurses, etc.

At the time of the annual inspection in February, 1901, by the legislative committee and physicians, the State Village for Epileptics, at Skillman, had 19 patients; of whom 11 were males. Two new cottages, completed in 1901, accommodate 100 patients, 50 of each sex. There are many epileptic patients who should be brought to the village from crowded institutions, where, according to the superintendent, they are now improperly cared for.

The State Reformatory, at Rahway, was formally opened in August. Four of the buildings had been completed at the time of the opening. The State granted this institution \$134,900 for the year.

In November the name of the New Jersey Home for the Education and Care of Feeble-Minded Children, at Vineland, was changed to the New Jersey Training-School for Feeble-Minded Girls and Boys.

The State last year granted the Soldiers' Home, at Kearny, \$17,400 for the purchase of an additional piece of land.

Board of Children's Guardians.—Within thirty days in the last year this board removed about 200 children from almshouses and placed them in private homes. The board anticipated excellent results from a new rule permitting them to receive children from the poormasters instead of taking them from the almshouses.

Children's Home Society.—This society, although not a State organization, is doing important work for the public welfare. There are similar societies in different parts of the State, and by conference and cooperation all are attaining unity of method and action. The New Jersey Children's Home Society has been in operation for eight years. In the year ending in June, 1901, it raised \$7,547.87, against \$6,765.06 for the previous year. The society received 139 homeless children this year, and has received 638 in all.

Legislative Session.—The Legislature of 1901 elected Gen. William J. Sewell to a third term in the United States Senate, every Republican member present in each House voting for him. Senator Sewell died at his home in Camden, Dec. 27. See obituary on page 467.

Among the more important acts of the Legislature at that session were the following:

An antispring election law, providing that city officers shall be voted for, not at separate elections in the spring as formerly, but with the same registration and upon the same official ballots required by law for the election of State and county officers.

Granting an appropriation of \$813,000 out of the State's surplus for the public schools.

The annual appropriation bill, carrying \$2,380,516.32, and the supplemental appropriation bill, carrying \$391,569.20.

Imposing an annual franchise tax upon companies not carrying on business in the State, and forfeiting charters of corporations for non-payment of other taxes previously imposed.

Placing convicts upon a probationary term.

Providing a general system for the improvement of roads.

Providing for the appropriation of lands for an interstate park along the Palisades, and for preservation of the Palisades scenery.

For protection of song-birds, and forbidding traffic in birds of plumage.

Appropriating \$15,000 for expenses of the State Tuberculosis Commission.

Enabling any married woman who is a trustee to sell real estate as a *femme sole*.

Authorizing the formation of free libraries in cities.

Providing for an additional Vice-Chancellor, to be appointed by the Chancellor for seven years.

Providing for an armory at Trenton, to cost not more than \$150,000.

Providing that a passenger arrested in a dispute as to his railroad fare may demand a hearing before the nearest magistrate.

Judicial Decisions.—The law abolishing spring elections was declared by certain citizens to be unconstitutional, but the Court of Errors and Appeals, in March, affirmed its constitutionality. The same court, in November, declared unconstitutional laws passed in 1901 to provide school boards for municipalities. A decision of the same court declared the act of 1888 providing that taxes in villages and other municipalities are a paramount lien until paid to be unconstitutional. The decision grew out of the South Orange case, and the court held that taxes in that village are a paramount lien upon property for three years only from the time they are payable.

In February the Supreme Court set aside as illegal a resolution of the Common Council of Paterson instructing the Printing and Stationery Committee to confine all orders for printing and advertising to offices and newspapers recognizing the Typographical Union. The justices declared that a resolution which excludes all persons from entering into certain contracts except those of a specified class tends to monopoly and the imposition of an additional burden upon taxpayers. Such action is void.

The Supreme Court in June rendered a decision in the case of the Newark tax officials against the North Jersey Street-Railway Company, in which the court held that all street-railway companies have a property interest in the streets through which they pass, which is taxable as realty.

Railroads and Canals.—The total assessed valuation for the year 1900 of railroad and canal property of the State, as reported by the State Board of Assessors, was \$219,656,014, and the amount of tax levied thereon by said board payable in 1901, for State uses, was \$1,098,280.07. Of this amount there was collected during the fiscal year ending Oct. 31, 1901, the sum of \$1,023,139.88, leaving a balance due the State for that fiscal year of \$75,140.19. The total assessed valuation of railroad and canal property of the State in 1901 was \$220,587,883, upon which was assessed a State tax of \$1,102,939.41, and local taxes of \$403,956.29.

The new Delaware Valley Railroad follows the

Delaware valley 45 miles. It passes through Monroe and Pike Counties, Pennsylvania, and leaves the State at Matamoras, opposite Port Jervis. Though built on the Pennsylvania side of the river, it affords an outlet for several hundred square miles of New Jersey territory formerly without transportation facilities.

The new Camden terminal of the Pennsylvania and the West Jersey and Seashore systems was opened in June, and next to the Jersey City station it is the finest in the State.

Railroading is New Jersey's greatest industry. According to the report of the State Bureau of Statistics for 1901, the number of railroad employees was 32,405; average hours' work per day, 10.7; aggregate amount of wages, \$18,023,604; average daily wages, \$1.82; average yearly earnings, \$556.11.

Banks.—The Commissioner of Banking and Insurance reported that on Sept. 30, 1901, there were in the State 27 savings-banks, with total resources and total liabilities of \$70,249,778.02; 19 State banks, with total resources and liabilities of \$12,861,037.09; and 33 trust companies, with total resources and liabilities of \$68,251,431.94.

Loan Associations.—The commissioner reported 364 building and loan associations, against 360 in 1900. In the year 17 were organized, 10 ceased business, 2 were dropped from the list as being of a different class, and 1 was reorganized under the laws of another State. Of the various associations, the commissioner says: "There are 32 'local,' 10 'State,' and 4 'national,' having combined gross assets aggregating \$52,891,594, representing an increase of \$1,766,544 over last year. The stock subscriptions paid on the shares outstanding amount to \$39,584,284, which is an increase of \$1,671,542. A total of \$3,727,973 is shown in other liabilities, which is an increase of \$164,793. The total profits or surplus, apportioned and unapportioned, are \$9,579,357, or \$69,791 less than the figures of the preceding year."

Products and Industries.—The State Geological reports that in 1900 there were 407,596 tons of iron ore mined, against 300,757 tons in 1899. This is the highest amount mined since 1892. The amount of zinc ore mined in the year was 194,888 tons, the largest in the history of the State and almost twice as much as two years previously.

The production of cement has increased enormously in recent years. This year a new company was incorporated, with an authorized capital of \$3,000,000, and has acquired 600 acres of land at Stewartsville, near Phillipsburg.

The annual report of the State Board of Agriculture shows an increase in the value of crops over 1900 of about \$3,000,000, owing chiefly to gains in quantity and quality of the corn-crop and the high price of potatoes. The values of the crops were: Corn, \$6,172,875.15; wheat, \$1,546,687.80; oats, \$760,024; rye, \$533,915.25; buckwheat, \$114,057; hay, \$7,320,168.24; white potatoes, \$2,571,898.50; sweet potatoes, \$2,260,000. The total value of live stock was \$18,756,553.

In the year-ending Sept. 3, 2,342 new companies were chartered by New Jersey. For incorporating these companies the State received \$558,369.54 in fees.

The number of canneries in operation in 1901 was 48, 11 of these handling both fruit and vegetables, and 37 vegetables only. The amount of capital invested in the industry was \$897,104; of this, \$185,590 was controlled by corporations or stock companies, and \$711,514 by private firms. The product of the principal vegetables and fruits was 27,708,480 cans.

The number of manufacturing plants of all kinds established in the State in 1901 was 119, and 34 old ones were abandoned. The increase thus made in the number of plants in 1901 is estimated at 18,000.

The latest census bulletin shows that the capital invested in the manufacturing plants exceeds \$500,000,000, and that it has more than doubled in the past ten years. The State employed 241,581 wage-earners in 1901, as many as in 1890, and the wages paid to them aggregated more than \$110,000,000 for the year.

Military.—At the Sea Girt ranges in September the New Jersey sharpshooters won the interstate military match. The number of New Jersey pensioners in December was 20,159, drawing from the national Treasury the annual sum of \$2,402,039.56. The State's claim against the United States on account of the Spanish-American War was \$346,155.92. At the end of 1901 the unpaid balance of this debt was \$80,704.43. The sum of \$161,898.75 has been paid as additional compensation to the volunteers who enlisted in the several regiments from this State in the war with Spain.

Battle of Trenton.—The one hundred and twenty-fifth anniversary of this event was celebrated Dec. 26 with elaborate observances, including a sham battle illustrating the historic engagement, and addresses and other exercises in the opera-house.

Street Improvement.—The Street and Highways Association of New Jersey, organized in May, 1901, has for its object "mutual aid and improvement in street work." Its membership is composed of street commissioners, superintendents, and other heads of street departments in towns and cities of the State.

Riparian Board.—The annual report of this board for 1901 shows the largest receipts since 1890, aggregating \$162,104.59. An increasing demand for State lands under water comes from persons wishing to locate large manufacturing industries in New Jersey.

Political.—The National Prohibition party held its State convention at Trenton, May 7. Joel W. Brown was the nominee for Governor.

The Republican State Convention was held at Trenton Sept. 26, and nominated for Governor Franklin Murphy. The platform demanded the enactment of laws for the suppression of teachings that justify or encourage assassination. The pledge of President Roosevelt that he would continue the policy of President McKinley was strongly approved, and President Roosevelt was declared to command the universal confidence of his countrymen. The policies of the Republican party, especially as the friend of labor, were emphasized, the administration of Gov. Voorhees approved, the achievements of the party in the State pointed out and its pledges renewed, and in its name the people were appealed to for continued confidence and support.

The Democratic State Convention, Oct. 1, nominated for Governor James M. Seymour. The platform, like the Republican, deplored the assassination of President McKinley, and demanded laws against anarchy. It objected to the State Republican administration as partizan, to discrimination in favor of trusts and corporations, to the impairment of the efficiency of the National Guard, and to the methods pursued in regard to the management and investigation of the State Hospital and the State Home for Girls. It demanded equal taxation, just protection for labor and fair adjustment of labor disputes, forest legislation, care of the water-supply, and action

upon the right of juries to award damages for suffering sustained in accident cases. Sympathy was expressed for the Boers. State expenditures were criticized. Election of United States Senators by the people was advocated. Republican shortcomings were pointed out, and Democratic pledges of better administration were given.

At the State election in November the Republicans were successful. Franklin Murphy was elected Governor by a plurality of 17,133, and the Legislature chosen had a Republican majority of 45 on joint ballot.

NEW MEXICO, a Territory of the United States, organized Sept. 9, 1850; area, 122,580 square miles. The population, according to each decennial census, was 61,547 in 1850; 93,516 in 1860; 91,874 in 1870; 119,565 in 1880; 153,593 in 1890; and 195,310 in 1900. Indians not taxed in 1900, 12,937. Capital, Santa Fé.

Government.—The Territorial officers in 1900 were: Governor, Miguel A. Otero; Secretary, J. W. Reynolds; Treasurer, J. H. Vaughn; Auditor, W. G. Sargent; Adjutant-General, William H. Whiteman; Attorney-General, E. L. Bartlett; Superintendent of Education, J. Francisco Chaves; Commissioner of Public Lands, A. A. Keen; Coal-Oil Inspector, John S. Clark; Public Printer, James D. Hughes—all Republicans. Supreme Court—Chief Justice, William J. Mills; Associate Justices, John R. McFie, Jonathan W. Crumacker, F. W. Parker, and Daniel H. McMillan; Clerk, José D. Sena—all Republicans. District Courts—First District (counties of Santa Fé, Rio Arriba, Taos, and San Juan), John R. McFie, judge, Santa Fé; Second District (counties of Bernalillo, Valencia, and McKinley), J. W. Crumacker, judge, Albuquerque; Third District (counties of Donna Ana, Sierra, Grant, Otero, and Luna), Frank W. Parker, judge, Las Cruces; Fourth District (counties of San Miguel, Guadalupe, Mora, Colfax, and Union), W. J. Mills, judge, East Las Vegas; Fifth District (counties of Socorro, Lincoln, Chaves, and Eddy), Daniel H. McMillan, judge, Socorro.

Population.—The Federal census of the Territory taken in 1900 is severely criticized by the press and people of the Territory, and all believe that the inefficient manner in which this work was done deprived New Mexico of the credit for at least one-third of its population. This conviction was so general and apparently so well-founded that the Governor instituted an investigation of the matter, and, taking the results of this investigation as a basis, he finds that the actual population at this time is 296,485, exclusive of 21,280 Indians, 8,343 of whom are citizens, living in villages, sending their children to school, and being in all respects good and valuable citizens. These facts are officially set forth in detail in the Governor's report to the Secretary of the Interior.

Finances.—The revenues of the Territory for the year were considerably in excess of expenditures, though the appropriations by the last Legislature were more liberal than ever. Certificates of indebtedness to the amount of \$48,800 have been called in and canceled, and there are now on hand trust funds for the redemption of outstanding bonds to the amount of \$71,658.07. The total present indebtedness of the Territory is \$1,180,800, and its 4-per-cent. bonds command a premium. From the funds derived from the sale and leasing of public lands large sums have been expended in the betterment of the public property and the institutions of the Territory.

Education.—By the school census taken in the summer, there are 53,008 children of school age (from five to sixteen years) in the Territory, and

of these 47,700 are enrolled as pupils, and the average daily attendance for the year was 31,800. These children are taught in 900 schools, employing 1,150 teachers, and the school property is valued at \$1,500,000. The largest amount expended for school-buildings at any one place is at Albuquerque, where the school-buildings now in use cost \$163,000, and bonds are being issued to the amount of \$30,000 for providing additional school room. This is in addition to \$100,000 expended by the United States in the erection of schools at this place for the education of Indian children. The percentage of illiteracy in the Territory, which was 85 by the census of 1870, was reduced to 65 in 1880, to 44 in 1890, and it is believed to be at present not more than 20. The reduction between 1870 and 1880 may be accounted for by the large immigration from "the States" at the time of the coming of the railroad, but whatever has occurred since 1880 has been due mainly to the public schools.

Indian Education.—The United States Industrial School for Indian children at Albuquerque, established in 1884, which for size and importance among institutions of its kind maintained by the National Government is excelled only by the school at Carlisle, was overcrowded during the year, and was obliged to turn away more than 200 applicants for lack of accommodations. The institution has proper accommodations for 300 pupils, and in 1901 it had an actual enrolment of 342—196 boys and 146 girls. As it is a boarding-school the attendance and enrolment are the same. These children are mainly Navajos, Isletas, Lagunas, and Zuñis, with a number of Apaches. In addition to the ordinary course of instruction commonly pursued in the public schools, the pupils receive practical training in industrial arts. The boys are taught carpentering, blacksmithing, tailoring, shoemaking, harness-making, and wagon-making, and on the model farm connected with the institution all receive a thorough training in farming and gardening; and the girls are trained in sewing, cooking, bread-making, and general housework. After leaving the school many of the boys find employment in the stores, shops, and factories of the town and become good citizens, while numbers of the girls go out to service and make the most reliable help. Both boys and girls as a rule are bright, and learn very quickly. They take readily to the customs of civilization, and after they have been at the school a few weeks, and become accustomed to their new environment and new costumes, there is nothing in their conduct or appearance, except their color, to distinguish them from other American boys and girls. According to the estimates of the principal of the school, there would be a regular voluntary attendance of about 800 if the accommodations were sufficient to admit that many. One fact worthy of special notice is the large attendance of girls. At first it was almost impossible to prevail on the Indians to let their girls go to school. But since they find that the girl graduates can earn from \$15 to \$20 a month, besides board and room, by doing housework in town, and are much more efficient at home than those that have not been educated, there are applications for the admission of almost as many girls as boys. There is another Indian school at Santa Fé, conducted on the same lines and of nearly the same capacity as the one at Albuquerque, and a general description of the character and work of one serves for both. The Territory also maintains ordinary public schools at nearly all the Indian pueblos, which are conducted in all respects the same as the district schools

for white children. The results in these are as favorable as in similar schools among the whites; but they are at a disadvantage as compared with the United States schools, because they are unable to carry out the industrial features of the latter. In addition to the two large industrial schools named, the United States Government also maintains smaller schools of like character in different parts of the Territory, and there are also several denominational schools conducted on the same general plan. The total number of Indian children regularly attending school during the year is given by the Superintendent of Education at 1,700.

The educational system of New Mexico is now as good as that of any State in the Union. Public schools on the "American plan" (with Spanish added in the country districts) are now regularly maintained in all parts of the Territory, while the higher branches are amply provided for at the University of New Mexico at Albuquerque, Territorial normal schools at Las Vegas and Silver City, the Agricultural College at Las Cruces, the School of Mines at Socorro, and the Military Institute at Roswell—all maintained through liberal appropriations by the Legislature, and open to all the young people of the Territory.

Mining.—The work of mining the precious metals went on steadily and quite successfully throughout the year. There were no "booms" or unusual "strikes," but the gross output is reckoned at \$6,000,000. A very large area of coal and iron land passed to private ownership this year, and the ore is rapidly being developed. The output of coal for the year is estimated at 1,500,000 tons, with a value at the mines of \$1,800,000. This industry gives employment to 2,000 persons. The coke production for the year was 42,732 tons, valued at \$117,576. Daily shipments of iron ore were made to the Bessemer Steel Works in Colorado, but no record of the volume of such shipments is obtainable, though the total amount is estimated at about 18,000 tons. Much attention has been given to coal-oil, and lands supposed to be oil-bearing have been bought in large tracts in different parts of the Territory. A good deal of work has been done in the way of prospecting and boring, but no oil has yet been found in paying quantities.

Legislative Session.—The session of the Legislature began Jan. 21 and ended March 21. Among the acts passed were an amendment of the school law; a public-land law, which regulates the lease and sale of lands granted by Congress for educational purposes; the law governing the administration of estates; and the property-rights law, which provides that property owned by husband or wife at the time of marriage, or such as may come to either party by inheritance or gift during coverture, may be disposed of by such party without the consent of the other, but does not affect the equal rights of the parties to all property acquired through the efforts of one or both during coverture.

The Commission on Irrigation and Water Rights, created by the last Legislature, was obliged to consume the greater portion of the year in examining and classifying the lands at its disposal. Contracts were entered into for reclaiming 50,000 acres of arid land, through the building of reservoirs and storing of water, and contracts are pending for the construction of works capable of storing a sufficient supply to reclaim an additional area of 145,000 acres.

General Development.—New Mexico made more progress in 1901 than in any other year since it became a part of the United States, ex-

cept possibly 1899. The most important achievement of the Atchison, Topeka and Santa Fe Railway, which was the first to enter the Territory, was the new main line from Albuquerque to settlement several hundred miles, and a considerable number of branch lines, which have opened for themselves in the Territory a new and practicable way to obtain water for stock and irrigation.

All that large portion of New Mexico between the Rio Grande and the Rio Pecos, extending from latitude 32° to 35°, has been practically closed to settlers and investors by reason of the lack of any modern means of communication. This district, as great as the 3 States of Massachusetts, Connecticut, and New Hampshire, now has 3 railroad lines, 1 of which, the Chicago, Rock Island and Pacific, projected diagonally through the region in question from northeast to southwest, was well-nigh completed during the year, while both the other roads are being pushed forward as rapidly as practicable. A portion of this district, a strip on the eastern slope of the Sandia, Manzano, and Oscura mountains, covering an area 20 miles east and west by 100 miles north and south, has a rainfall sufficient to enable it to produce good crops without irrigation, and these lands are especially sought for by settlers who come from the humid sections of the country. This section is also desirable because of its proximity to the mountains, where there is abundance of timber.

The good work by the United States Court of Private Land Claims in settling the titles to Spanish and Mexican land grants continued through the year. This tribunal has now nearly completed its mission. In 1901 it considered 3,669,716 acres claimed as grant lands, of which 25,667 acres were confirmed to the claimants, as being valid grants, and 3,644,049 acres were rejected as grant lands and added to the public domain.

The industrial development of New Mexico in 1901 is well illustrated by the unusually large number of companies formed for industrial purposes, exceeding the number organized in any other year in the history of the Territory. There were 149 incorporations, with a total capitalization of \$89,735,935. Of the incorporations for the year, 65 were for mining, milling, and smelting, having a combined capitalization of \$51,885,000; 47 for manufacturing and other industrial purposes, with a capitalization of \$2,817,425; and 19 for the development of coal-oil, capitalized at \$15,550,000.

The acreage of public land disposed of by the 4 United States land offices of the Territory was 673,161 acres, an increase of 151,516 acres over the amount disposed of in 1900. Fully half of all the land taken during the year was entered under the provisions of the homestead laws, showing that the lands were taken by persons who intended to live upon and cultivate them. Heretofore the bulk of the transactions consisted of mineral, coal, and desert entries, which are usually made for speculation.

The live-stock industry was more than usually flourishing during the year. High prices prevailed, favorable weather brought an abundant crop of grass on all the ranges, effective quarantine and cattle sanitary regulations prevented the introduction or spread of infectious diseases, and mild weather during the autumn and early winter brought the herds in all parts of the Territory up to the close of the year in good condition for market. The total number of sheep is placed by the Territorial authorities at 5,000,000 head, and the year's lamb crop is estimated at 1,200,000.

The wool-clip for 1901 is put at 20,000,000 pounds, which is somewhat above the average, but this advantage was offset by lower prices. The establishment of scouring works at several points in New Mexico, especially at Albuquerque and Las Vegas, has done much to benefit the wool interests.

Militia.—Gen. William H. Whiteman, the Adjutant-General of New Mexico, has thoroughly reconstructed the militia system of the Territory, and in 1901 he introduced reforms so sweeping that the militia has been transformed from a purely ornamental institution into a practical and useful division of the public service—one that is kept in constant readiness for work.

Health-Seekers.—The rapidly increasing number of invalids who seek health in the dry and mild climate of New Mexico has caused much attention to be given to this matter, and accommodations in the way of comfortable resorts for invalids have been provided in various sections of the Territory, and at altitudes ranging from 3,000 feet to 8,000 feet above sea-level. As a supplement to these efforts in the line of providing sanitaria, the University of New Mexico has added a department of climatology, and a building exclusively for this purpose has been erected at a cost of \$20,000. This building, known as Hadley Hall, has been thoroughly equipped with laboratory conveniences, and with the best apparatus obtainable for investigation and experiment in the line of work to which the department is devoted. It is the only institution in the United States devoted exclusively to the study of climatic conditions and peculiarities with respect to their influence in curing or preventing disease.

NEW YORK, a Middle State, one of the original thirteen, ratified the Constitution July 26, 1788; area, 49,170 square miles. The population, according to each decennial census, was 340,120 in 1790; 589,051 in 1800; 959,049 in 1810; 1,372,111 in 1820; 1,918,608 in 1830; 2,428,921 in 1840; 3,097,394 in 1850; 3,880,735 in 1860; 4,382,759 in 1870; 5,082,871 in 1880; 5,997,853 in 1890; and 7,268,012 in 1900. Capital, Albany.

Government.—The following were the State officers during the year: Governor, Benjamin B. Odell, Jr., Republican; Lieutenant-Governor, Timothy L. Woodruff; Secretary of State, John T. McDonough; Comptroller, Edward C. Knight; Treasurer, John P. Jaekel; Attorney-General, John C. Davies; State Engineer and Surveyor, Edward A. Bond; Superintendent of Public Instruction, Charles R. Skinner, whose term of office expired April 6, 1901, when he was reappointed; Superintendent of Insurance, Francis Hendricks; Superintendent of Banking Department, Frederick D. Kilburn; Superintendent of State Prisons, Cornelius V. Collins; Superintendent of Public Works, John N. Partridge; Commissioner of Labor Statistics, John McMackin; Railroad Commissioners, Ashley W. Cole, George W. Dunn, and Frank M. Baker; Chief Judge of the Court of Appeals, Alton B. Parker; Associate Judges, John C. Gray, Denis O'Brien, Celora E. Martin, Edward T. Bartlett, Albert Haight, and Irving G. Vann, together with Judson S. Landon, William E. Werner, and Edgar M. Cullen, who are judges of the Supreme Court, sitting in the Court of Appeals.

The term of the State officers is two years. They are elected in November of even-numbered years. The Legislature meets every year in January.

Finances.—According to the report issued by the State Comptroller, the balance in the treasury on Oct. 1, 1900, was \$7,289,802.55; receipts from

all sources, \$30,544,694.88; total, \$37,834,497.43. The payments were \$28,045,146.27, leaving a balance in the treasury on Sept. 30, 1901, of \$9,789,351.16, distributed as follows: Canal fund, \$883,247.27; school fund, \$398,965.34; general fund, \$8,254,621.09; and trust and miscellaneous funds, \$252,517.46. The total receipts from the corporation tax law were \$4,966,680.93, including \$1,398,799.30 from trust companies and \$705,333.12 from savings-banks. The organization tax yielded \$293,856.72, while the transfer tax, commonly called the inheritance tax, produced \$4,084,606.87. At the time that the tax rate was fixed by the Legislature, it was estimated that the receipts from these three sources would aggregate \$4,500,000, whereas the total was \$9,345,144.52.

The State tax was 1.20 mill (the lowest in forty years), compared with 1.96 mill in 1900, and 2.49 mills in 1899. The estimated revenue, including surplus, was \$15,511,418.13. The tax was distributed as follows: Canal, maintenance, 0.17 mill; canal, extraordinary repairs and new work, 0.15 mill; canal, payment of debt, 0.13 mill; free school fund, 0.75 mill; total tax levy, 1.20 mill. This tax is on the estimated valuation of property in the State of \$5,672,249,753, which will realize as follows: Canal maintenance, \$964,282.45; extraordinary repairs and new work, \$850,837.47; payment of canal debt, \$737,392.47; the free school fund, \$4,254,187.31; total, \$6,806,699.70.

Valuation.—The State assessors during the year were J. Edgar Leaycraft, George E. Priest, and Lester F. Stevens, each of whom received a salary of \$2,500. According to the report issued on Sept. 3, the total valuation of real and personal property available for State taxation was \$5,686,921,678, compared with \$5,461,302,752 for the preceding year, which was distributed among the different counties in the following proportion: Albany, 1.644; Allegany, 0.267; Broome, 0.590; Cattaraugus, 0.405; Cayuga, 0.574; Chautauqua, 0.546; Chemung, 0.450; Chenango, 0.288; Clinton, 0.167; Columbia, 0.406; Cortland, 0.217; Delaware, 0.248; Dutchess, 0.512; Erie, 5.310; Essex, 0.170; Franklin, 0.186; Fulton, 0.243; Genesee, 0.403; Greene, 0.232; Hamilton, 0.052; Herkimer, 0.373; Jefferson, 0.563; Kings, 12.615; Lewis, 0.161; Livingston, 0.465; Madison, 0.361; Monroe, 2.377; Montgomery, 0.466; Nassau, 0.459; New York, 50.295; Niagara, 0.684; Oneida, 1.061; Onondaga, 1.898; Ontario, 0.497; Orange, 0.756; Orleans, 0.266; Oswego, 0.469; Otsego, 0.379; Putnam, 0.122; Queens, 1.706; Rensselaer, 1.289; Richmond, 0.898; Rockland, 0.265; St. Lawrence, 0.578; Saratoga, 0.456; Schenectady, 0.337; Schoharie, 0.195; Schuyler, 0.117; Seneca, 0.253; Steuben, 0.551; Suffolk, 0.766; Sullivan, 0.099; Tioga, 0.228; Tompkins, 0.290; Ulster, 0.479; Warren, 0.135; Washington, 0.323; Wayne, 0.442; Westchester, 2.662; Wyoming, 0.262; Yates, 0.187.

Taxation.—The State Board of Tax Commissioners reported to the Legislature on Jan. 29 as follows: "A year's practical working has disclosed some changes which can be made in the special franchise law to its betterment in execution. The principle has thoroughly approved itself. There are several variations in administrative details which we shall ask you to consider in the form of proposed amendments. These relate chiefly to the procedure prescribed, and are as follow: First, restoration to local assessment of property upon highway crossings where the occupation is less longitudinally than 250 feet; second, the law should authorize and direct this board to equalize, after hearings, special franchise valuations found by it to conform with the local assessment of other real estate in the tax district where special

franchises exist, upon such proofs and information as the board can obtain; third, that certiorari proceedings be taken directly to the appellate division on appeal. In the enforcement of the new tax laws enacted last year, there has been no difficulty, excepting in the case of savings-banks. These institutions have taken the ground that interest accrued, but not yet due, does not constitute undivided earnings, and is therefore not the subject of taxation.

Banks.—The superintendent's report for the year ending Sept. 30, 1901, shows that the total resources of the institutions, as given by their reports, are as follow: Banks of deposit and discount, Sept. 12, 1901, \$403,477,311; savings-banks, July 1, 1901, \$1,105,076,764; trust companies, July 1, 1901, \$966,528,398; safe-deposit companies, July 1, 1901, \$5,475,091; foreign-mortgage companies, Jan. 1, 1901, \$5,690,620; building-and-loan associations, Jan. 1, 1901, \$59,653,737; total, \$2,545,901,921. This is an increase of \$283,899,506 over last year. The number of savings-banks is 128, the same as last year. In his report he condemns the so-called "national" associations, and asks that the banking laws be amended so as to place them under the supervision of his department and prohibit speculative investments and impairment of capital through the payment of large salaries. The words "national" and "local," he says, are not clearly defined by the statutes, and while they convey a comparatively clear idea to those conversant with their operations, their significance varies more or less from year to year, according to the changing methods of the corporations themselves.

Census.—The population of the State, as given by the census of 1900, is 7,268,012, compared with a population in 1890 of 5,997,853, which shows an increase during the decade of 1,270,159, or 21.2 per cent. The numerical increase in the population of New York was greater during the last decade than during any other ten-year period, and the percentage of increase has been greater than at any census since 1860. The present population of the State is more than thirty-one times as large as the population reported at the first census in 1790. The total land surface of New York is approximately 47,620 square miles, the average number of persons to the square mile being 152.6. Of the 61 counties in the State, 38 have increased in population since 1890. The counties showing the largest increase are Schenectady, 57.2 per cent.; Kings, 39.1 per cent.; New York, 35.3 per cent.; Erie, 34.3 per cent.; Richmond, 29.7 per cent.; and Westchester, 24.9 per cent. Out of the total population of the State, there are 3,614,780 males, or 49.7 per cent., and 3,654,114 females, or 50.3 per cent. There are 1,900,425 foreign born, and 112,013 colored. Of this number 99,232 are negroes, 7,170 Chinese, 354 Japanese, and 5,257 Indians. In New York city there were 1,067,660 native males and 1,099,482 native females, 658,045 foreign-born males and 632,035 foreign-born females; 33,587 colored males, of which 27,132 were negroes, and 33,717 females, of whom 33,534 were negroes.

Insurance.—The annual report of the Superintendent of Insurance for 1900 shows that the business of 182 fire and marine insurance companies represents aggregate receipts of \$167,371,063 and disbursements of \$161,316,628, being an increase of \$11,657,815 in receipts and an increase of \$2,669,430 in disbursements. The assets of the fire and fire marine insurance companies of this country and the foreign fire insurance companies of other countries, with United States branches, doing business in New York, aggregated \$312,-

580,551, classified as follows: New York joint-stock companies, \$91,504,111; companies of other States, \$111,124,080; marine insurance companies, \$77,722,741; New York mutuals, \$834,352; mutuals of other States, \$1,000,000. These figures show an aggregate increase of \$2,669,430. The liabilities of these companies, including surplus and capital, are \$148,200,331, an increase of \$240,207. The assets of life companies, \$147,737,722.52, an increase of \$147,400,000. New York State companies had \$191,231,315.90, an increase of \$89,950,741.43; companies of other States, \$681,419,890.63, an increase of \$57,152,307.82. The aggregate of premium notes and loans showed an increase of \$1,042,277.97, while deferred and uncollected premiums decreased \$3,819,167.31. The liabilities of the companies were \$1,565,459,780.86, the increase being \$213,527,714.09. The liabilities of New York State companies were \$945,734,272.02; companies of other States, \$619,725,508.84. The gross divisible was: New York State companies, \$96,583,559.87; companies of other States, \$61,694,381.79; aggregate, \$158,277,941.66. The New York State companies issued 402,439 policies, insuring \$816,741,691, and terminated 212,448 policies, insuring \$479,476,325. The companies of other States issued 284,566 policies, insuring \$540,027,962, and terminated 144,727 policies, insuring \$285,485,049. The aggregate of the above were 687,005 policies issued, insuring \$1,356,769,653, and 357,175 policies terminated, insuring \$764,961,374.

Excise.—The collection of the tax or excise is under the charge of a commissioner, and the incumbent was Henry H. Lyman, who died on May 4, and was succeeded on May 21 by Patrick H. Cullinan, who was appointed to fill the unexpired term. The annual report shows that the total receipts under the liquor tax law for the year ended on April 30, 1901, was \$12,532,600; rebates paid during above period, \$753,140.52; county treasurers' fees, \$54,704.70; net revenue, \$11,724,755; expenses of collection, county treasurers' fees, and expenses of department, \$343,495; ratio of expenses of collection to gross amount collected under liquor tax, 2.7 per cent., as compared with 8 per cent. for the last year under the old law. Total receipts under the old law for year ended April 30, 1896, were \$3,172,376; expenses of collection, \$252,782; net revenue in localities where licenses were issued, \$2,291,268; net revenue under the liquor tax law for five years from May 1, 1896, to April 30, 1901, inclusive, \$57,384,248; number of licenses or certificates issued during the last year under old excise, 33,437; under last year of liquor tax law, 26,839; decrease in places selling liquors under liquor tax law, 6,598. In 1898, under the old law, there were 659 license and 283 no-license towns in the State. In September there were 649 license and 285 no-license towns. There are 26 towns which only allow sales of liquor by pharmacists on physicians' prescriptions. The percentage of population in the State contained in no-license towns is 6.2.

Education.—In the latest annual report of the Superintendent of Public Instruction, he emphasizes the necessity of thoroughness in elementary studies, and expresses the conviction that the most urgent need of our public-school system is more thorough work in elementary subjects, such as language, arithmetic, history, and geography. The demands upon pupils' time now are excessive, and if more subjects are to be crowded into the curriculum it follows, as a principle of natural law, that something must be displaced. He urges the necessity of enlarging the powers of school

commissioners, particularly in reference to the consolidation of school districts and the transportation of school children who live remote from schoolhouses. The tendency of the rural population toward cities is forcefully illustrated by the figures quoted, and it is demonstrated that the rural-school problem is changing, and the question of furnishing adequate school facilities in such districts is rapidly becoming complicated. He calls special attention to the careful inspection of the State educational institutions which has been conducted during the past year, covering normal schools, Indian schools, and schools for defectives. As a result of this inspection, much valuable information has been secured, and important recommendations made. The Manual of Patriotism, which was authorized by the Legislature of 1900, has been supplied to every public school in the State, and has met with marked favor. While it is a debatable question in some minds whether patriotism can be taught, there is no question that it can be fostered and strengthened by the influence of the best literature on the subject. In the report of the college department, which includes universities and professional and technical schools, which are under the jurisdiction of the University of New York, it appears that there are 112 institutions, with net property valued at \$77,902,339.27, and with 29,795 students in attendance, as compared with 705 secondary schools, whose net property is valued at \$28,412,184.38, and whose students are reported at 79,365.

Vital Statistics.—These are under the supervision of the State Board of Health, which consists of the ten following members: S. Case Jones, president; Baxter T. Smelzer, secretary; Daniel Lewis, Owen Cassidy, Frederick W. Smith, William T. Jenkins, and Walter F. Willcox, and the Attorney-General, State Engineer, and health officer of the port of New York *ex officio*. According to their report for 1900, the number of deaths in the State was 128,468, which exceeded the number for the year previous by 6,647, and the average for the past five years by 8,000. The epidemic of influenza was unusually severe during the last six months, and probably added 11,500 to the total mortality. The number of deaths reported for December, 1900, was 9,889. Concerning smallpox, the annual report says: "Smallpox was brought from outside to seventeen places during the first half of the year, without spread. From August to November the State was free from it; then a traveling minstrel show left it at three localities in the eastern part of the State, whence it spread, and at the end of the year it exists at five places and their vicinities, with promise of further spread. Of 14 deaths, 4 have occurred outside New York city." This is probably the last report of the State Board of Health, as it was abolished by the Legislature on Feb. 14, 1901, and a single-headed commission was established in its place, to which Dr. Daniel Lewis was appointed on Feb. 28.

Charities.—These are under the care of a board, whose annual report is prepared from the sworn statement filed by the treasurers or other responsible officers of the charitable institutions, societies, and associations, subject to the board's supervision. The board consists of 12 members. Fourteen of the State charitable institutions come under their direction, and the receipts for these institutions for the year ending Sept. 30, 1900, were, from cash on hand, \$63,925.84; from public sources, \$612,471.90; from private sources, \$307,699.56; total receipts, \$984,097.30. Their total expenditures aggregated \$940,189.78. In their report the board made the following recommendation for

legislation: "That all of the special appropriations for the State institutions within the jurisdiction of the board be included in one bill, with such provisions as will insure in every instance the most careful and economical expenditure of the moneys appropriated, in exact accordance with the intentions of the Legislature. For the maintenance of these State institutions the Legislature appropriated \$1,053,000, and for extraordinary expenditures \$448,596.26, and the board in their report asked for an appropriation of \$1,108,800.89 for the maintenance of the charities and \$635,028.29 for extraordinary expenses. Much space is devoted to comment upon the decision of the Court of Appeals in the case of the State against the New York Society for the Prevention of Cruelty to Children, claiming, for the first time in a quarter of a century, by preventing the collection of reports from organized charities, it prevents the Legislature and the public from having any definite knowledge annually of the amount of dependence which exists in the State. For instance, the total number of dependent children in institutions can not now be definitely known through any official source; the protection which the State has hitherto extended to the inmates of such exempted institutions is removed; the protection to trust funds left by will or otherwise bestowed, for the use of the poor, amounting in some cases to hundreds of thousands of dollars, is also removed.

Lunacy.—The care of the insane is under the charge of a State commission, whose report for the year ending Sept. 30, 1900, showed that there were admitted to the hospitals during the year 4,795 new cases of insanity—an increase, compared with the preceding year, when the new cases were 4,201. The net increase at the close of the year was 714, and this included 61 cases received from the asylum for insane criminals at Matteawan to relieve overcrowding. There were 1,029 patients discharged recovered during the year, and 900 discharged sufficiently improved to return to their homes. During the year the commission removed to their homes in other States and foreign countries 115 non-resident and alien patients. This work becomes increasingly difficult each year, by reason of the repugnance of steamer authorities to accepting alien lunatics as passengers. A reduction of \$297,171.52 was made in the cost of maintenance of the 22,000 insane supported during the year, the individual rate having fallen from \$3.43 to \$3.18 a week—a reduction made in the face of an upward tendency in the price of staple articles of supply. The amount spent for new buildings, extraordinary improvements, etc., was \$662,948.99, against \$1,126,043.77 for the year 1899. There was collected from paying patients \$210,851.14. There was expended for salaries and wages in the State hospitals \$1,442,001.71. The total value of real estate of State hospital buildings was \$21,600,000, while the personal property of these institutions was \$1,670,000.

Prisons.—The sixth annual report of the State Commission of Prisons, issued during the year, made the following recommendations: (1) A new law for the parole of prisoners in State prisons, and providing for a probationary officer for each prison, who shall have charge of paroled convicts under the supervision of the Board of Parole. (2) The establishment of a State reformatory for male misdemeanants. (3) The enactment of a probationary law for drunkenness and other petty offenses, modeled on the lines of the Massachusetts law. (4) The enactment of a law abolishing the State prison districts, and requiring convicts to be sentenced to the nearest State prison, sub-

ject to transfer by the Superintendent of Prisons as now provided by law. (5) An appropriation to repair or rebuild the extension of the domestic building (used as a mess-hall), the engine and boiler house, and the manual-training building of the Elmira Reformatory. (6) An appropriation for a new iron-proof roof on the principal cell building of Ossining prison. (7) The erection of a separate building for the confinement and execution of condemned men. (8) The erection of a central power-house for Ossining prison. (9) A small additional appropriation for rebuilding the prison wall at Ossining with stone. (10) The erection of a new storehouse for Auburn prison. (11) Insert in the law providing for the new Palisades Park a provision authorizing the grading and the making of roads and paths of said park with convict labor. In 1895 an act was passed by the Legislature for the purpose of facilitating the identification of criminals, and in 1896 the department, under the supervision of the State Superintendent of Prisons, was organized for the collection of a series of cards for the identification of criminals by the Bertillon system. The office containing these cards is in the Capitol in Albany, and records of more than 35,000 criminals are catalogued. The new State Prison Commission was organized on March 5, 1901, and included Lisenard Stewart as president, State Treasurer John P. Jaekel as vice-president, and Superintendent of Prisons Cornelius V. Collins as commissioner, with George McLaughlin as secretary.

Canals.—The charge of the canals is under the care of the Superintendent of Public Works. The official opening of the canals was on May 7, 1901, having been postponed from May 4, owing to the heavy rains and damage to structures, and the closing was ordered on midnight of Nov. 30, although, as a fact, the severe cold had caused navigation to cease somewhat earlier. The annual report of the superintendent showed that the total tonnage for 1900 was 3,345,941 tons, against 3,686,051 tons for the previous year. Of the total freight carried, 2,115,151 tons went eastward and 1,230,790 tons westward. There were 1,362,550 tons of through and 1,983,391 tons of way freight. Of the through freight 857,607 tons went eastward and 504,943 tons westward, and of the way freight 1,257,544 tons went eastward and 725,847 tons westward. On March 15, the Governor sent a message to the Legislature that included all the reports on canal improvement, and recommended the continuation of the Seymour or 9-foot plan of deepening the canal, which was begun in 1895, and which required \$9,000,000 to improve one-third of the system. The cost estimated was \$19,797,828, and the Governor recommended the bonding of the State if the improvement proposition was accepted by the people in November, the bond issue to be redeemed in eight years, which would mean the raising of a little more than a million a year to redeem the bonds and pay interest thereon. The final cost, with interest added, will be more than \$20,000,000, it is expected, and may reach \$25,000,000. Subsequently, after a conference between the Governor, State Engineer, Superintendent of Public Works, State Comptroller, and other officials, a bill was introduced into the Legislature, calling for the improvement of canals, making a barge canal for 450-ton barges instead of a 300-ton-barge canal.

Railroads.—This department is cared for by three commissioners, each of whom serves five years, and receives a salary of \$8,000. According to their annual report for the year ending June 30, 1900, the gross earnings of the steam surface roads were \$247,087,779, and of street-railways

\$40,811,563, which is an increase of an average earning per passenger of about one mile. The operating expenses of the steam railroads were \$16,817,645.74 in 1900, as against \$16,817,645.74 in 1899, and the net earnings were \$16,817,645.74 in excess of the net earnings of 1899. The report also calls attention to the work under the new law. According to its provisions, the State is building new steam railroads at grade or over or under the grade of highways and bridges by the company. The expense of building new highway crossings at grade or over or under the grade of steam railroads must be borne half by the municipal corporation and half by the railroad company. The expense of abolishing existing grade crossings must be borne one-half by the railroad company, one-quarter by the State, and one-quarter by the municipal corporation. Since the passage of the law, 48 highway grade crossings have been actually abolished, and work at 10 others is nearing completion. Plans and specifications for doing the work have been approved in 16 cases. In 19 instances nothing has been done toward the abolishment of the crossings.

Geological Survey.—The Board of Regents of the University of New York have, in addition to their charge of educational matters, jurisdiction over the geological survey of the State. According to a report issued by them, the map of the State, which is under preparation in cooperation with the United States Geological Survey, will, when completed, have a north-and-south length of about 23 feet, and an east-and-west width of 25 feet. The scale of this map is one mile to the inch, so that every street in the towns, and outside of them every road and house, every stream and hill, will be shown; and, with contour lines drawn at 20-foot intervals, it is possible to tell at a glance the height of any hill or other selected spot. Nearly half of the area of the State has been covered. The map is divided by lines of latitude and longitude, 15 minutes apart, into quadrangles. Several of the quadrangles of this map, colored geologically, have been prepared under the direction of the State paleontologist; the Amsterdam sheet, parts of sheets composing Rockland County, and portions of Albany and Rensselaer Counties, Niagara Falls and vicinity, including the city of Buffalo, and others are in preparation, notably those of Olean, Salamanca, Canandaigua, Naples, Chittenango, and Tully, and the area will be increased as rapidly as practicable for the purpose of publishing geologic maps as accurate in detail as the geographic map that has served as the base for the geologic coloration. The enumeration of type specimens in the State Museum in Albany has been completed, showing that there are now more than 5,000 of these valuable specimens, which is several times greater than the number of New York types contained in all other museums and collections. A detailed catalogue of these type specimens is in preparation.

Forestry, Fisheries, and Game.—The Forest, Fish, and Game Commission, and the Forestry Preserve Board, as existing at the beginning of the year, were abolished by an act of the Legislature, signed on March 13, and a single-headed commission, known as the Forest, Fish, and Game Commission, was established in its stead. As organized on March 3, the commissioner appointed by the Governor was De Witt C. Middleton, who will serve for a term of four years, and receive a salary of \$5,000. The consulting commissioners named were Charles H. Babcock, of Rochester, and Timothy L. Woodruff, of Brooklyn, who re-

ceive no salary, and were appointed to serve until Jan. 1, 1903, after which date the Governor is given discretion to designate from time to time two commissioners of the Land Office, to act with the forest, fish, and game commissioner, and constitute the board for the purchase of forest lands. According to the new law, subsequent to Jan. 1, 1903, the forest, fish, and game commissioner may appoint a deputy commissioner at an annual salary of \$2,500.

National Guard.—The charge of the National Guard of the State of New York is under the supervision of the adjutant-general on the Governor's staff. The incumbent during the early part of the year was Edward M. Hoffman, who died in Albany on May 15. The assistant adjutant-general, Frederick Phisterer, was detailed as acting adjutant-general, and continued in charge of the department until the close of the year.

Pharmacy.—The State Board of Pharmacy, created by the Legislature of 1900, organized early in January, with Robert K. Smither as president, and Sidney Faber as general secretary. Dates were decided upon when examinations should be held in different parts of the State. According to the new law, every drug-store in every town, village, or hamlet having more than 500 population must be registered, and each store must have a licensed pharmacist. In places having a population of fewer than 500, stores may be conducted by a druggist. The law makes a distinction between a pharmacist and a druggist, the latter being equal to an assistant pharmacist, and being licensed as such after passing the required examination. The new law will have the effect of more uniform and practical examinations, and will result in the closing of many stores, as drugs have been sold by men who never passed any examination, and were not licensed pharmacists.

Palisade Park.—The agitation for the preservation of the Palisades of the Hudson and converting the adjacent land into an interstate park, was made the subject of a bill that passed the Legislature and received the approval of the Governor. Nothing east of the Rocky mountains equals the Palisades in scenic effect. The trap-rock precipice has not the distinct columnar structure of similar rock in various localities, such as Scotland's island of Staffa, and places on the Columbia river and its tributaries; but it is sufficiently columnar to present the striking appearance of a vast fortification with bastions and salient angles, and the effect is greatly enhanced by position directly on the border of the sea-like lower Hudson for more than 20 miles, the walls rising from 310 feet at Weehawken to 550 feet northward, and almost twice that in hills after it reappears still farther north and west. The great dike is from a quarter of a mile to a mile in width. The park will run from Fort Lee Ferry to Huyler's Landing, and will take in all land from the summit of the cliffs to the water's edge. The intention is to make a driveway along the base on the river side, with here and there a branching road to the top. The bill appropriated \$400,000 for the purchase of the property. The land owned by private persons on which the commission has options will cost \$500 an acre, and the cost of riparian rights has been fixed at \$10 a running foot. A similar bill, appropriating \$50,000, was passed by the Legislature of New Jersey, and received the signature of the Governor of that State. The Palisades Commission is composed of the following: New York—George W. Perkins, president; Abram S. Hewitt, vice-president; Ralph Trautmann, treasurer; J. Du Pratt White, secretary; Nathan F. Barrett, D. McNeely Stauffer, Col.

Edwin A. Stevens, Franklin W. Hopkins, J. Abram De Ronde, and W. A. Linn. New Jersey—Edwin A. Stevens, president; D. McNeely Stauffer, vice-president; Abram De Ronde, treasurer; J. Du Pratt White, secretary; F. W. Hopkins, George W. Perkins, Abram S. Hewitt, Ralph Trautmann, Nathan F. Barrett, and W. A. Linn.

Historian.—The work of looking up the records of the soldiers from New York who died during the civil war has been continued during the year, and the historian reports that he has found inscribed on burial-stones in the cemetery at Gettysburg the names of New York soldiers who are still alive. Considerable interest has been taken in the Battle-Ground Cemetery near Washington, where some of the New York soldiers now lie buried, having been called out to defend the capital during Early's raid in 1864. The records of the dead at that cemetery include names of soldiers of whom all trace had disappeared. The New York troops engaged in the action at Fort Stevens consisted of a regiment of cavalry, a battalion of heavy artillery, 11 regiments of infantry, and a battalion of another regiment of infantry.

Legislative Session.—The session of the Legislature began on Jan. 2, 1901, and continued until April 23. As elected, the Senate consisted of 35 Republicans and 15 Democrats, and the Assembly of 105 Republicans and 45 Democrats. Timothy E. Ellsworth was reelected President *pro tem.* of the Senate, and Samuel F. Nixon was again chosen Speaker of the Assembly. There were 1,701 bills introduced into the Assembly, of which 826 were passed; and 505 bills were introduced into the Senate, of which 409 were passed. There were 731 bills that received the approval of the Governor. Among the more important measures enacted were the following:

Authorizing the State to cede to the Federal Government the lower half of Esopus island in Hudson river.

Amending the charter of New York city so as to correct defects in the general charter amendment act, as follow: To require the written approval of the sinking-fund commissioners to contracts and leases by the dock commissioner. To require the distribution of school moneys subject to the same regulations as those imposed on the common schools of New York. Relative to the publication of city notices. Amending the educational provision relative to licensing of teachers. To allow the dock commissioner to appoint a deputy at a salary of \$4,500 a year, who shall be empowered to act in the absence of the commissioner. Also, empowering the commissioners of the sinking-fund to accept a proposition for leasing docks after refusal by the dock commissioner. Abolishing the bipartizan Police Board in New York city, and providing for the appointment of a single commissioner by the mayor, subject to removal, without charges, by either the mayor or the Governor. Authorizing New York city to exchange property in the Twelfth Ward with the College of the City of New York. Permitting New York city to accept the \$5,200,000 gift of Andrew Carnegie for a free library system. It authorized the city to purchase, erect, and maintain libraries, also to enter into a contract with Mr. Carnegie to accept his gift under the conditions named by him. Permitting library corporations in New York city to convey their property to the Public Library—Astor, Lenox, and Tilden foundations. Permitting the consolidation of libraries in New York city.

Incorporating the Naval Arch Association, to erect a naval arch on the water-front of Man-

hattan island to perpetuate the memory of the victories of the United States navy.

Providing additional terminal facilities on the Manhattan end of the New York and Brooklyn Bridge.

Increasing from \$2,000,000 to \$2,250,000 the appropriation for a bridge over Harlem river at New York city.

Classifying the positions in the State service, and regarding the salaries paid to the holders thereof.

Creating a single-headed State health department in the place of the present board of nine commissioners, with a commissioner of health to be appointed by the Governor within twenty days after the law is signed. The salary of the commissioner is fixed at \$3,500.

Authorizing the State commissioner of public health to inquire into the enforcement of the laws relative to tenement-houses in cities of the first class, and when requested by the Governor to report to him the result of his inquiry.

Providing that the State Board of Classification shall fix the prices of articles manufactured in State charitable institutions and sold to the State for other State institutions.

Placing building-and-loan associations under the partial supervision of the State superintendent of banks.

Amending the Greater New York charter to allow the park commissioners to authorize and regulate projections, and determine curb lines on streets and avenues in parks and places under the jurisdiction of the park commissioners.

Amending the Greater New York charter to provide that the fire commissioners shall select the grade of cloth required for uniforms, but shall not prescribe where or from whom the uniforms shall be purchased or the price to be paid therefor, and prohibiting any clothing contractor from having an office in any fire department building.

Authorizing the deputy fire commissioner to exercise all the powers of the fire commissioner of New York city during the absence of the latter official or the inability to perform his duties.

Providing that the commissioner of jurors in New York city shall select 200 persons a year in each municipal court district for municipal jury duty.

Authorizing the justices of the municipal court of New York city to appoint a commission, to consist of three justices from Manhattan Borough and one each from the Bronx, Brooklyn, Queens, and Richmond, to codify the laws, rules, and practices relating to the municipal court of that city.

The four tenement-house bills, which the Legislature passed on the recommendation of the Roosevelt Tenement-House Commission.

Authorizing New York city to appropriate \$55,000 annually for the maintenance of the Metropolitan Museum of Art.

Providing that the New York City Board of Estimate and Apportionment may set aside 70 acres of land in Forest Park, in Queens Borough, for the purpose of giving Brooklyn an additional storage-reservoir.

Giving to the State Engineer and Surveyor the power to make rules and regulations for the care of highways improved under the good roads act.

Providing that the president of the State Commission in Lunacy shall be a physician of ten years' experience, who has had five years' experience in the treatment of mental and nervous diseases, or two years' experience in the treatment of committed insane.

Amending the election law by providing that the entry of the country of a naturalized citizen's

nativity shall mean the place of his birth, irrespective of his former political allegiance.

Giving the State Department of Agriculture jurisdiction over animal and human contagious diseases.

Amending the election law by providing a misdemeanor to sell liquor within one hundred yards of a polling-place at a special election, and at a general election.

Amending the excise law, to provide that hotels shall keep a register of guests, and prohibiting the closing of saloons during the progress of an action.

Amending the mining law providing that at the expiration of twenty-one years from the time of discovery of a mine the discoverer or his heirs shall pay to the State a royalty of 1 per cent. on the market value of all products of such mine.

Amending the penal code by making it a misdemeanor for any person to ride a bicycle upon a sidewalk or footpath maintained for the exclusive use of pedestrians.

Amending the State pharmacy law to allow country stores to sell Epsom and Rochelle salts without a druggist's license; also, allowing physicians to compound prescriptions and sell poisons where there is no drug-store within three miles.

Amending the tax law relative to the taxable transfers of property by giving the State Comptroller power to open proceedings in the appraisal of estates.

Amending the tax law relative to taxable transfers by exempting therefrom bequests to Bible and tract societies.

Reducing the State tax on the organization of new corporations from $\frac{1}{2}$ to $\frac{1}{10}$ of 1 per cent.

Changing the color of the State flag from buff back to blue.

Amending the real-property law relative to the execution of conveyances of parties residing in Porto Rico, the Philippine Islands, and Cuba by providing that they may be made before a judge of a court of record, a mayor, or other city officer, a commissioner of the United States Government, or a commissioned officer of the United States army or navy.

Providing that the Secretary of State shall not grant a certificate of authority to do business in this State to any foreign corporation having the same name as an existing domestic corporation or a name so nearly resembling it as to be calculated to deceive.

Authorizing the courts to modify the terms of a charitable bequest, provided that it is found impracticable to carry out such terms as are fixed by the person who made the bequest.

Providing that a person convicted of felony shall be sentenced under an indeterminate sentence if he has never before been confined in a State prison, and if the crime of which he is convicted is punishable by imprisonment in a State prison for a period not exceeding five years.

Providing that the legal minimum standard for insurance contracts shall be the American experience table of mortality, with interest at $3\frac{1}{2}$ per cent. a year.

Providing if a juror is employed by a party to an action, or is employed by a stockholder of a corporation involved, or is a stockholder in a corporation party to the litigation, such fact shall constitute good ground for a challenge.

Providing that a certificate of incorporation of a corporation need not name more than three directors of such corporation.

Providing that corporations as well as individuals may be members of a news-gathering association.

Reducing from two to one the number of directors of a corporation of this State, who must reside in New York State.

Prohibiting the sale of consecrated property of the Protestant Episcopal Church or a rectory or parsonage without the consent of the bishop and the standing committee of the diocese.

Providing that an acknowledgment for use in proceedings in this State may be made in the Kingdom of Great Britain or Ireland or dominions of the British Empire before a notary public.

Providing that a foreign corporation can not maintain an action in this State unless authorized to do business here.

Providing that an insurance company shall not issue new policies if its capital stock is impaired to the extent of 50 per cent. after charging such corporation with a reserve liability, or, in case it has no capital stock, if its assets are less than its liabilities, upon the basis of charging it with the reserve liability.

Amending the law relative to the descent of real property left to the intestate by a deceased husband or wife.

Providing that a hotel or inn-keeper may sell at public auction, after one year, unclaimed baggage.

Exempting licensed engineers of steam-boilers from jury duty.

Providing for a fine of \$10 to be laid by highway commissioners upon any person who deposits or throws loose stones in the gutter or the grass adjoining a highway from which they may have been removed.

Increasing the maximum number of directors of a banking corporation from 24 to 30.

Making it a misdemeanor for an employee of a telephone or telegraph company to aid a criminal in violating the laws of the State by refusing to give evidence when required.

Providing that after Jan. 1, 1902, no common-law marriage shall be recognized in this State, except the parties thereto have signed a contract in the presence of witnesses and filed the same with the clerk of the town, village, or city in which the contract was made.

Providing that five of the commissioners of the Palisades Interstate Park Commission may be residents of New Jersey.

Appropriating \$400,000 for the purchase of the Palisades.

Authorizing the Governor to appoint a committee of seven to represent the State at the South Carolina Interstate and West Indian Exposition, to be held in Charleston, S. C., and appropriating \$15,000.

Annexing the village of Bath to the city of Rensselaer.

Authorizing towns of 5,000 inhabitants to appropriate \$50 yearly for the observance of Memorial Day.

Authorizing village trustees to make a contract with the fire department of an adjoining unincorporated village for fire protection for a period of ten years.

Authorizing villages to compromise claims for damages to property resulting from changes of grade of streets and bridges.

Authorizing villages of the fourth class to acquire private streets for parkways.

Reappropriating \$318,845 for the improvement of the State canals.

Appropriating \$325,000 for extraordinary repairs to the canals.

Authorizing town boards to establish sewer systems.

Amending the law relative to the San José scale by providing that transportation companies must

notify the State Commissioner of Agriculture of the receipt of all nursery stock.

Prohibiting the killing of quail until 1903 in the counties of Cayuga, Wyoming, Chautauqua, Erie, Richmond, Genesee, and Montgomery.

Including April and July as months in which striped bass shall not be taken with a net from the waters of Hudson river.

Extending until 1906 the law preventing hounding deer in this State.

Providing that ducks, geese, brant, and swan shall not be taken from April 30 to Aug. 31.

Appropriating \$100,000 for the promotion of sugar-beet culture.

Authorizing Buffalo to issue \$150,000 in bonds for defraying the expenses of police protection for the Pan-American Exposition.

Authorizing the Pan-American Exposition Company to issue second-mortgage bonds to the value of \$500,000.

Appropriating \$2,500 for a monument at Antietam to the memory of the soldiers of the Twenty-fourth New York Infantry.

Appropriating \$5,000 for a monument in honor of the memory of the members of the Seventy-first Regiment killed in the Spanish-American War.

Providing that cider vinegar made by a farmer from the product of his farm shall not be deemed adulterated if it contains 2 per cent. solids, and sufficient alcohol to develop the required amount of acetic acid.

Affording veterans in State, county, and municipal employ leave of absence, with pay, on Memorial Day.

Prohibiting the employment of women and children at polishing and buffing.

Prohibiting the opening of butcher shops on Sunday.

Making funeral expenses a preferred lien on the estate of the deceased, and payable before all other debts.

Providing that voting-machines shall be constructed so as to permit voting for independent electoral candidates.

The Senate and Assembly met in joint session on Feb. 13, and elected Charles R. Skinner to be Superintendent of Public Instruction and Robert C. Pruyn to the Board of Regents. Mr. Pruyn was chosen to the vacancy caused by the death of Hamilton Harris.

Political.—The usual election was held on Nov. 5, on which occasion 9 judges of the Supreme Court were chosen, 4 in the First District, 1 each in the Third, Fourth, and Seventh, and 2 in the Sixth District. The candidates were as follows: First District—Morgan J. O'Brien (Democrat), James A. Blanchard (Republican), John P. Clarke (Republican), and Samuel Greenbaum (Independent Democrat), all of whom were fusion candidates. Morgan J. O'Brien, Robert A. Van Wyck, Charles H. Knox, and Charles W. Dayton were the regular Democratic nominees. Third District—Aaron V. S. Cochrane (Republican), Levi F. Longley (Democrat), and Patrick Burke (Socialist Labor). Fourth District—Edgar A. Spencer (Republican), Robert P. Anibal (Democrat), William Green (Prohibition), John H. Bullard (Social Democrat), and John E. Wallace (Socialist Labor). Sixth District—Charles E. Parker and Gerrit A. Forbes (Republican). Seventh District—William H. Adams (Republican), Henry Beisiegel (Socialist Labor). The successful candidates were Morgan J. O'Brien, James A. Blanchard, John P. Clarke, and Samuel Greenbaum in the First District; Aaron V. S. Cochrane in the Third District; Edgar A. Spencer in the

Fourth District; Charles E. Parker and Gerrit A. Forbes in the Sixth District; and William H. Adams in the Seventh District. There was also an election in the Twenty-fourth Congressional District, to fill the vacancy caused by the death of A. D. Shaw, and the nominees for the vacant place were William H. Powell (Democrat), Charles L. Knapp (Republican), Charles W. Richards (Prohibitionist), and Raymond K. Bull (Social-Democrat), and Charles L. Knapp was elected. In addition two State Senators were chosen to fill vacancies caused by deaths in the Thirtieth and Forty-third Senatorial Districts, as well as the election of an entire new Assembly. The successful candidates for the State Senators were William D. Barnes (Republican) in the Thirtieth District, and Merton E. Lewis (Republican) in the Forty-third District. The next Senate, as elected, is composed of 35 Republicans and 15 Democrats, and the membership of the Assembly comprises 106 Republicans, 42 Democrats, and 2 Independent Democrats. On joint ballot the parties are represented as follow: 141 Republicans, 67 Democrats, and 2 Independent Democrats. An amendment to section 18 of Article III of the State Constitution, forbidding the Legislature to pass special tax exemption bills, was passed.

NORTH CAROLINA, a Southern State, one of the original thirteen, ratified the Constitution Nov. 21, 1789; area, 52,250 square miles. The population, according to each decennial census, was 393,751 in 1790; 478,103 in 1800; 555,500 in 1810; 638,829 in 1820; 737,987 in 1830; 753,419 in 1840; 869,039 in 1850; 992,622 in 1860; 1,071,361 in 1870; 1,399,750 in 1880; 1,617,947 in 1890; and 1,893,810 in 1900. Capital, Raleigh.

Government.—The following were the State officers in 1901: Governor, Charles B. Aycock; Lieutenant-Governor, W. D. Turner; Secretary of State, J. B. Grimes; Treasurer, B. R. Lacey; Auditor, B. F. Dixon; Attorney-General, R. D. Gilmer; Superintendent of Education, T. F. Toon; Commissioner of Agriculture, S. L. Patterson; Adjutant-General, B. S. Royster; Insurance Commissioner, James R. Young—all Democrats; Corporation Commission, Franklin McNeill, Samuel L. Rogers, D. H. Abbott; Commissioner of Labor and Printing, H. B. Varner; Librarian, M. O. Sherrill; Chief Justice of the Supreme Court, David M. Furches, Republican; Associate Justices, Robert M. Douglas (Republican), Walter Clark (Democrat), W. A. Montgomery (Democrat), and Charles A. Cook; Clerk, Thomas J. Kenan, Democrat.

The State officers are elected for terms of four years at the time of presidential elections. The Legislature meets biennially in January of the odd-numbered years. The time of the session is not limited, but legislators are paid for not more than sixty days.

Census Figures.—Of the 347 incorporated places in the State, only 35 had a population in 1900 of more than 2,000; of these 23 have fewer than 5,000 inhabitants; and 6 have more than 5,000 but fewer than 10,000; 6 have more than 10,000, namely, Wilmington, with 20,976; Charlotte, with 18,091; Asheville, with 14,694; Raleigh, with 13,643; Greensboro, with 10,035; and Winston, with 10,008 inhabitants. The urban population of the State is 8 per cent. of the whole. The figures for children of school age are: Whole number, 753,826, of whom 450 are foreign born, 263,044 colored, 377,611 males, and 376,215 females; there are 326,202 men of militia age, of whom 1,346 are foreign born and 99,626 colored. The men of voting age number 417,578, of whom 2,530 are foreign born and 128,314 colored.

Finances. The report in the treasury Nov. 30, 1900, was \$10,000,000. The receipts for the following year were \$10,000,000. The disbursements were \$1,685,556.68; the balance Dec. 31, 1901, \$18,263.02.

The statement of the year ending Dec. 31, 1900, is kept separate, as is found in the report for 1900, \$23,219.50; receipts from Jan. 1, 1899, to Dec. 1, 1901, \$17,620.10; total, \$40,839.60; disbursements, \$5,304.55; balance Dec. 31, 1901, \$35,535.05.

The expenditures of the State Government for the various institutions during the year ending Dec. 31, 1900, are as follow: Dangerous insane, \$7,446.44; hospital at Raleigh, \$73,356.22; hospital at Goldsboro, \$45,729.79; hospital at Morganton, \$112,633.93; School for the Deaf and Dumb, Morganton, \$48,718.81; State's prison, \$177,805.05; Agricultural Department, \$67,354.24; Soldiers' Home, \$14,818.17; Institution for the Deaf, Dumb, and Blind, \$68,011.22; pensions, \$113,291; College of Agriculture and Mechanic Arts, \$54,645.89; University of North Carolina, \$31,000; Colored Normal, \$18,250; State Normal, Greensboro, \$40,000; Oxford Orphan Asylum, \$10,000; Oxford Orphan Asylum (colored), \$6,600; sundry expenditures, \$795,895.92; total, \$1,685,556.68; balance Dec. 1, 1901, \$18,263.02.

The State of South Dakota brought suit in November in the United States Supreme Court to recover on bonds of the Western North Carolina Railroad Company, which were guaranteed by the State of North Carolina. The bonds were issued before 1870 and have been repudiated.

Education.—The receipts for the public schools this year were \$1,119,746.47, while in 1900 they were \$1,031,327.94. The sources of income were: State and county poll-tax, \$327,404.05; general property tax, \$525,257.15; special property, local tax, \$15,544.25; special poll, local tax, \$404.45; fines, etc., \$23,411.82; liquor license, \$79,279.62; auctioneers, \$23.75; received from State Treasurer, \$101,401.80; other sources, \$45,983.48. The white schools were in session nearly a week longer and the colored schools a week and a half longer than during the year preceding. The average for the former was 15.56 weeks and for the latter 14.49 weeks. This does not include the city schools, which were in session from thirty-two to forty weeks. The second \$100,000 of the extra legislative appropriation had not been issued, on account of the low state of the finances; it is to be distributed to the counties that have not funds sufficient for four months of school.

The enrolment in the public schools in 1901 was 290,178, an increase over the preceding year of 19,731. The average attendance in 1900 was 142,413; in 1901 it was 172,272.

The State Normal College received in the summer a gift from G. F. Peabody, of New York, of \$10,000, of which \$5,000 is to be used in developing an educational park on the college grounds, and the other \$5,000 is to become available as soon as a certain sum shall be raised by friends of the institution. The college owns 125 acres of land, about half of which is broken and in forest.

A practise and observation school building has been erected at a cost of about \$15,000. The regular annual appropriation is \$25,000.

At the College of Agriculture and Mechanic Arts, 23 were graduated in June. In September 315 students were present. The Board of Visitors recommended the establishment of professorships of animal industry and veterinary science and of biology, the establishment of the offices of field botanist and supervisor of the department of horticulture, and that 100 acres of the college land

be cleared for an experiment farm. Most of the recommendations were carried out; and the board established 120 agricultural scholarships, and appropriated \$2,000 to pay agricultural students for labor. Last year the students earned \$2,480. In the coming year nearly \$5,000 will be available for employment of student workmen. In December the Watauga building, in which were the dining-hall and kitchen and dormitory-room for 50 students, was burned. A fund was raised by subscription to indemnify the students for their lost property, but the majority refused to accept anything. The burned building was erected in 1894, cost \$9,000, and was insured for \$6,000.

The State University, at Chapel Hill, graduated a class of 50 in June, and the Law School graduated 70 in September. The number of students in the institution at that time was 537. New buildings and improvements have been added, costing, in the two years past, about \$120,000, and several instructors have been added to the faculty. The regular annual appropriation from the State has been \$25,000; this year it was increased to \$37,500.

The State board awarded \$990 to 99 schools that had raised each \$10 as a condition of receiving \$10 for a rural library; each county also contributes \$10.

In January a free library was dedicated in Raleigh, the gift of Richard B. Raney. The cost was \$41,000, and it is estimated that the rent of stores and hall in the building will yield an annual income of \$1,500.

By the will of Mrs. Virginia B. Y. Swepson, educational institutions in the State receive about \$45,000.

The public-school authorities of Asheville have been severely criticized by newspapers in the State for including the name of John Brown in an outline of study to guide the teachers of the sixth grade. The directions said: "Use freely stories from lives of great men and women—as Washington, Franklin, Jackson, Lincoln, Grant, John Brown, Lee, Jackson (Stonewall), Edison, Audubon, Garrison, Longfellow, Agassiz, Clara Barton, and others. The name was omitted from subsequent editions of the course of study.

Charities and Corrections.—The State School for the Deaf and Dumb, at Morganton, had an enrolment of 230 in the year ending in June. Improvements that were undertaken were delayed by the washing away of bridges during the floods and the scarcity of laborers and materials.

There were 225 in the Institution for the Blind at Raleigh. A census list shows 189 blind children in the State who are not in the school.

The State insane asylums have been so crowded that it was decided to notify paying patients to seek accommodations elsewhere, and decline to receive any more sent for inebriety. The Constitution requires that the indigent insane be cared for at State expense. The report of the Central Hospital for the Insane shows that on Nov. 30 there were 420 patients, of whom 168 were men. The expenditures amounted to \$83,195; the receipts to \$82,127.

The financial report of the Penitentiary shows that for the two years 1899 and 1900 the expenditures, not including old debts and amounts spent for permanent improvements, were \$385,801.12, an average of \$16,079.17 a month. From April 3 to Sept. 7, under new management, the average was \$10,390.86 a month. The State farms were badly damaged by the floods, which washed away the dikes.

Industries and Products.—The preliminary census report of the manufacturing industries of

the State shows a total capital of \$76,503,894, an increase of 133 per cent. during the decade; number of establishments, 7,226, an increase of 97 per cent.; average number of wage-earners, 70,570; total wages, \$13,868,430; cost of material used, \$53,072,368, an increase of 132 per cent.; and value of products, including custom work and repairing, \$94,919,663, an increase of 135 per cent. The city of Wilmington, which is separately reported, shows a total of 123 establishments, capital, \$1,819,333, an increase of almost 4 per cent.; 1,469 wage-earners; total wages, \$446,413, a decrease of more than 3 per cent.; and value of products, including custom work and repairing, \$2,246,237, an increase of 18 per cent.

The number of companies granted articles of incorporation during the year ending Nov. 30 was 375; their capital stock amounted to \$26,458,385; 3 of the companies were authorized to issue \$1,000,000 in capital stock.

There was a large increase in 1901 in the sale of fertilizers; the revenue from the sales was \$67,988.24, an increase of \$12,740.55.

The Government report on the turpentine industry shows for the State, in 1900, 361,729 barrels of crude turpentine with a total value of \$1,055,685.

Estimates of the cotton-crop vary, but the most reliable one appears to be that placing it at 328,040 bales, which is a falling off from the preceding year's record of 514,000.

The estimates on the tobacco-crop make the acreage 89 per cent. of that of 1900, and the crop 75 per cent. On the other hand, the prices were much higher. The industry, while better this year, is not as profitable as it was ten years ago. There are fewer manufacturers, the trust having absorbed many of the larger independent plants.

Banks.—The condition of the banks at the close of business April 24 was reported to the Corporation Commission as follow: Capital of State banks, \$2,488,750.77; of private banks, \$151,500; of savings-banks, \$172,351.39; total resources, \$16,321,160.68; deposits subject to check, \$9,824,011.20. A new ruling has been adopted by the Tax Commission in regard to the taxation of bank stock—that owners can not deduct the amount of their debts from the amount of their stock, but must pay taxes on the full value. Thirty-two building and loan associations were doing business in the State.

Railroads.—The total railroad mileage at the beginning of the year was 3,637, an increase in a year of 63.

The value of this track is \$38,010,426; of the rolling-stock, \$3,320,882; of the other property, \$770,693, making a total valuation of \$42,102,002. The gross earnings of railroads of North Carolina aggregate \$14,919,832; of this amount \$9,336,881 are expended in operation, leaving an income of \$5,582,950. The number of persons employed by the railroads of the State is 10,609. The number killed in the year was 87, of whom 28 were employees and 51 trespassers; the number injured was 992; of these, 805 were employees and 74 trespassers.

Eight telegraph and telephone companies have lines in the State, 36 companies operate steam-boat lines, and 7 electric railways are in operation.

The commission reduced the fertilizer rates; the Seaboard company brought suit against the reduction, depositing more than \$6,600 with the Treasurer to be paid back to shippers if the commission should be sustained. The decision was in favor of the corporation commission, and the shippers receive nearly all the indemnity money.

Insurance.—The receipts from insurance companies for the year ending April 1, 1901, were \$91,072.92, divided as follow: Taxes, \$60,599.75; licenses, \$24,741.67; fees, \$5,731.50. There are 173 companies doing business in the State and 4,698 local agents. On Jan. 1 there were but 154 companies. Of the 173 companies, 33 are life, 94 fire, 17 miscellaneous, and 29 fraternal.

Lawlessness.—Lynchings were reported this year at or near Carthage, La Grange, Smithfield, Wadesboro, and Weldon. All but one of the victims were negroes, and all were accused of assaults upon women. The Governor has announced that hereafter he will offer a reward of \$400 for the apprehension of each and every participant in a lynching.

Legislative Session.—The Legislature convened Jan. 9, and final adjournment was taken April 4. On joint ballot there were 140 Democrats, 25 Republicans, and 5 Populists.

On Jan. 22 Furnifold M. Simmons was elected to the United States Senate for the term ending in 1907. Richmond Pearson was the Republican candidate. The vote in the Senate was 36 to 8; in the House 88 to 18.

The laws passed numbered 1,209, and the resolutions 56.

A resolution was passed in the House for the impeachment of the Chief Justice of the Supreme Court, David M. Furches, and Associate-Justice Robert M. Douglas, for "high crimes and misdemeanors in office." The accusation, as given in the resolution, was based on the clause in the Constitution which says that "the Supreme Court shall have original jurisdiction to hear all claims against the State, but its decisions shall be merely recommendatory. No process in the nature of execution shall issue; they shall be reported to the next session of the General Assembly for its action."

The Legislature of 1899 passed a law providing that the Treasurer should "not pay any compensation to any person or persons claiming the same for services rendered concerning the shell-fish industry, unless such person or persons are authorized to render such services under the provisions of the act entitled 'to provide for the general supervision of the shell-fish industry of the State of North Carolina.'" But Theophilus White brought an action of mandamus against the Treasurer and the Auditor to compel them to issue a warrant for his salary for services rendered concerning the shell-fish industry, and these two justices ordered them to do so, whereupon they paid Mr. White \$831.15. The resolutions censured the Treasurer and the Auditor, and impeached the justices. The resolution was debated four days and was passed by a vote of 62 to 33. Of those voting in the negative 18 were Republicans and 2 Populists. All voting in the affirmative were Democrats. The case came to trial before the Senate, and resulted in a vote, March 28, of acquittal. Thirty-four votes were necessary to convict, but only 27 were for conviction; the 23 votes against it were from 10 Republicans, 12 Democrats, and 1 Populist.

The Governor sent a special message about Feb. 4, officially announcing the settlement of the railroad cases. In 1899 the Corporation Commission assessed the Atlantic Coast Line, the Southern, and the Seaboard Air Line at \$35,579,870, an increase of more than \$9,000,000 over the assessment of 1898; and in 1900 the three were assessed at \$36,373,382. The roads secured an injunction restraining from collection of taxes on the amounts in excess of the assessments of 1898, claiming that there was a systematic undervaluing of the

other property in the State. The positions for settlement were made by the State, resting upon reduction of the taxes on the property, but offering to pay upon that basis. The State property should not be less than the other property. There should be another assessment of the property in the State. The Governor of the State agreed to the latter position, but insisted that no reduction should be made in the assessment for either 1899 or 1900, and upon this basis the agreement was reached.

As the revenue of the State had been inadequate to meet the demands upon it, a new revenue law was a necessity, and one was passed. In addition to the general property tax and the poll-tax, the law now calls for taxes upon incomes and inheritances, banks, building and loan associations, corporations, and various occupations and privileges. The tax on incomes is 1 per cent. on all over \$1,000. No inheritance under \$2,000 is taxed, and only inherited personal property is subject to the tax, the lowest rate of which is 75 cents; the rate increases with the amount of the legacy and the distance in kinship of the legatee. No city or county is permitted to levy any income or inheritance tax. The tax on insurance companies of other States was raised from 2 to 2½ per cent. on their gross premium receipts, and the fees for agents' licenses were doubled. The tax on premium receipts of home companies was doubled.

This law was criticized as unconstitutional, unjust, impracticable, inquisitorial, and promotive of perjury and litigation. The Fayetteville Chamber of Commerce requested the other chambers in the State to cooperate with it in appealing to the Governor to call a special session of the Legislature to amend it. This the Governor refused to do, saying that he had no reason to believe the Legislature would change the act, and that it could not make radical changes without leaving the treasury bankrupt, or being forced to issue bonds.

The public-school law was amended in important particulars. The bill provides that "if the tax levied for the State for the support of the public schools shall be insufficient to maintain one or more schools in each school district four months, then the Board of Commissioners of each county shall levy a special tax to supply the deficiency." An addition of \$100,000 was made to the annual appropriation for schools, so that the term may extend to the required four months. The law for granting license to teach without examination was repealed. The State board was authorized to consolidate the several normal schools for colored students into a smaller number. Oct. 12 was set apart as North Carolina day, to be observed in the schools. A text-book sub-commission was created and authorized to examine and report upon the best books to be used in the schools; their report goes to the State board; the books when adopted are to be used five years.

A new libel law makes "any person who states, transmits, or delivers by any means whatsoever, to the manager, editor, or publisher of any newspaper or periodical for publication therein, any false and libelous statement," guilty of a misdemeanor.

The management of the Agricultural and Mechanical College was placed in the hands of the State Board of Agriculture, and a board of visitors to act with that board was appointed.

An act designed to prevent the shipment of large quantities of timber to mills outside the State provides that no corporation shall be allowed to hold more than 300 acres of land, or

the timber on more than 300 acres, or the privilege of cutting the timber on more, unless that corporation shall operate mills in the State, at which the timber shall be manufactured. Large companies have been buying or leasing great tracts for this purpose.

A new election law provides for a State Board of Elections, composed of 3 men, of whom not more than 2 shall be of the same political party. The county boards, likewise, shall be composed of 3 persons, only 2 of whom can be of the same party. Of the 4 judges of election, not more than 2 can be of the same political party, and these 2 must be selected from lists of 5 furnished by the county chairman of their party. The clause in the present election law taking away the right of a writ of mandamus is stricken out.

Permanent registration is provided for those entitled to vote under the Constitution.

The board of corporation commissioners was made a board of State tax commissioners with general supervision over assessors and power to revise assessments. New regulations were made as to tax sales and redemption.

The Department of Agriculture was placed under an amended law. Only practical farmers are to be eligible. The commissioner is to be elected for four years and receive a salary of \$2,000. The Governor is to appoint 1 member from each congressional district.

The pension law was amended; there are 4 classes of pensions, carrying \$30 to \$72; veterans totally blind since the war are to receive \$120 a year; widows must have been married before April 1, 1865, in order to be eligible for pensions.

Other enactments were:

Repealing the law prohibiting the formation of a corporation with a capital of more than \$1,000,000.

Requiring corporations transacting business in the State to have an agent there.

Providing for State banks of circulation.

Requiring railroad companies to provide separate and equal accommodations for white and black passengers, except that branch and narrow-gauge lines and mixed trains may be exempted by the Railroad Commissioners.

Providing for a State board of embalming.

Making Labor Day a legal holiday.

Fixing the penalty for gambling in a hotel at not less than \$500 and imprisonment not less than six months—formerly \$10 and thirty days.

Amending the insurance laws.

Revising the antitrust law.

Directing that executions of capital offenders be private.

Making twenty years' imprisonment the maximum penalty for kidnaping.

Providing for defense of officers or persons prosecuted in Federal courts for acts committed in performance of State duties.

Incorporating a State hospital for the dangerous insane.

Authorizing the Corporation Commission to prescribe rates for street-railways.

Requiring railroad companies leaving freight unshipped for more than five days, unless by agreement, to forfeit to the owner \$500 for each day, and damages.

Requiring public warehouse proprietors to give bonds of not less than \$25,000.

Requiring street-railway companies to use vestibule fronts on cars from Nov. 15 to April 1.

Requiring any municipality that has collected a tax or license on property outside the corporate limits to refund the same. This act had unexpected results. Several city charters gave the

privilege of imposing license for the sale of whisky immediately outside the city limits. Under this act suits were entered to compel the return of money so collected.

Extending the time for registering land grants three years.

Increasing the number of Superior Court judges to 16, and redividing the judicial districts.

Authorizing the Governor to appoint 3 examiners to visit State institutions, without notice, and report to him.

Providing that the Commissioner of Agriculture and the State Geologist form a highway commission, select a secretary from the Department of Agriculture, make rules for employment of prisoners on the roads, and have general supervision of roads, bridges, and ferries.

The increase in appropriations for pensions was \$100,000; for public schools, \$100,000; for the judiciary, \$10,000; and for the Corporation Commission and other objects, \$35,000. The amounts to the State institutions were: School for Deaf and Dumb, \$43,500; Institution for Deaf, Dumb, and Blind, \$65,050; University of North Carolina, \$37,500; Normal and Industrial College, \$40,000; North Carolina College of Agriculture and Mechanic Arts, \$30,260.81; Agriculture and Mechanic College (colored), \$10,000; hospital, Raleigh, \$77,750; hospital, Morganton, \$165,000; hospital, Goldsboro, \$75,000; Soldiers' Home, \$13,000; dangerous insane, \$8,000; colored normal schools, \$19,500.

A committee of the Legislature appointed to investigate the accounts in the Treasury Department found a shortage of \$16,550.52 in the State Prison account, due to a defaulting clerk. Most of the amount having been taken during the incumbency of the former Treasurer, W. H. Worth, the present Treasurer made demand upon him for it; he in turn asked it from the surety company in which the defaulting clerk was bonded; but the company refused on the ground that the Treasurer's books were each year examined by a legislative committee and pronounced correct, and but for that the company would never have rebonded Major Martin year after year. Mr. Worth then turned over all his property to his bondsmen to insure them against loss in case the company should be successful in resisting the claim, not even reserving property that could not have been taken under the law. The clerk was sentenced to ten years' hard labor in the Penitentiary.

Historical.—Exercises were held in Raleigh, in November, to inaugurate a movement for erecting a statue in the city of Sir Walter Raleigh.

Preparations are in progress for a celebration next summer of the landing of the Sir Walter Raleigh colony on Roanoke island.

NORTH DAKOTA, a Northwestern State, admitted to the Union Nov. 3, 1889; area, 70,795 square miles. The population was 182,719 in 1890 and 319,146 in 1900. Capital, Bismarck.

Government.—The following were the State officers in 1901: Governor, Frank White; Lieutenant-Governor, David Bartlett; Secretary of State, E. F. Porter; Treasurer, D. H. McMillan; Auditor, A. N. Carl bloom; Attorney-General, O. D. Comstock; Superintendent of Public Instruction, Joseph M. Devine; Adjutant-General, E. S. Miller; Commissioner of Insurance, Ferdinand Leutz; Commissioner of Agriculture and Labor, Rollin J. Turner; Railroad Commission, C. J. Lord, J. F. Shea, J. J. Youngblood; Commissioner of Public Lands, D. J. Laxdahl; Oil Inspector, P. B. Wickham, succeeded in April by L. W. Schruth; Superintendent of Public Health, H. H. Healey; Commissioner of Forestry, W. W.

Barrett till July 1, when the office was abolished; State Examiner, H. A. Langlie, succeeded in March by R. E. Wallace; Chief Veterinarian, J. W. Dunham; Board of Pardons, the Governor, the Chief Justice, the Attorney-General, T. E. Fox, and R. S. Adams; Game Warden, George Watson; Chief Justice of the Supreme Court, Alfred Wallin; Associate Justices, N. C. Young, David E. Morgan. All are Republicans.

The State officers are elected for terms of two years in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years.

Finances.—The Treasurer's report for the first half of the year shows the cash balance in all funds at the beginning of the year to have been \$158,164.33. The receipts from all sources in the six months were \$833,060.11. Of this amount, the fees to the several State departments, insurance taxes, and other incidental sources of revenue were \$208,231.60. The insurance companies paid nearly \$40,000 in taxes. Interest and income for the tuition fund amounted to over \$70,000. About \$51,000 was received from the sale of school and institution lands.

Mileage and per diem of the last Legislative Assembly amounted to \$32,521.70; per diem of the officers and employees of the Legislative Assembly, \$26,960. Insurance on public buildings cost \$6,620. About \$1,700 was paid out for expenses of extraditing criminals. Transportation of convicts cost \$2,254, and of patients to the insane asylum \$6,154. For the care of the blind \$1,428 was paid. The permanent school fund paid \$26,700 for purchase of bonds from school districts. The sum of \$19,866 was paid out of the operating fund of the twine and cordage plant. The Treasurer redeemed \$16,787 of wolf bounty certificates.

The total expenditures during the six months were \$743,238.57, and the balance on hand in all funds July 1 was \$247,985.87.

Valuations.—The total valuation of real property, as equalized by the State board, was \$77,739,637. There are 18,929,742 acres of land on the tax rolls. The value of the land, exclusive of structures, is \$62,790,487. Structures on the land are assessed at \$3,450,466. Town lots in the State are assessed at \$4,983,920, and structures on lots at \$6,514,764.

The total value of personal property was fixed at \$27,849,290. Nearly half of this sum is represented by live stock. Elevators are assessed at \$1,519,488, warehouses at \$98,800, and grain therein at \$93,916. The railroad property is valued at \$17,993,367; express companies, \$139,220; telephone companies, \$108,297; telegraph companies, \$287,290.

The rate of taxation for all State purposes was 9 mills.

Education.—The total school population, June 30, was 97,055; in 1900 it was 92,437.

Eight students received degrees at the commencement of the Agricultural College, at Fargo, in June. In the summer more than \$60,000 was expended for new buildings, repairs, and apparatus.

The first law class was graduated at the State University, at Grand Forks, in June. The enrolment was 175 the first day of the fall term.

The Valley City Normal School opened with 102 pupils, 30 more than in the year previous. The graduating class numbers 19.

Penitentiary.—There were 115 prisoners in June, 30 fewer than the year before. Fifty work in the twine factory; about three-fourths of the product had been disposed of. The State sells binder twine to the farmers as nearly as possible at cost.

Products and Industries. The census returns show 1,139 agricultural establishments were reported for North Dakota in 1900. Wage earners employed, 1,239,000; wages, \$1,147,470. The product of agriculture, \$1,147,470.

Flour-milling gave a product of 1,147,470 bushels, or 45 per cent. of the total product of all the manufacturing industries in the State. Between 1890 and 1900 the number of acres of the State increased 6,290,602 acres.

The wheat-crop of 1901 was estimated at 11,000,000 bushels, and the flax-crop at near 11,000,000 bushels. Half of the flax grown in the country is raised in this State.

The corn-product amounts annually to about 1,000,000 bushels; barley, 6,000,000; oats, 1,800,000; and rye, 500,000. The potato-crop amounts to about 2,000,000 bushels, and the hay-crop to 1,500,000 tons. There are more than 100 creameries. The wool-product of 1900 was 1,800,000 pounds.

The largest industrial organization ever formed in the State has been incorporated for the buying, selling, and mining of coal and other lands, the buying and selling of merchandise of all kinds, manufacturing and selling brick, tile, and sewer-pipe, erecting, maintaining, and operating electric railway and telephone-lines, etc. The capital stock is \$1,000,000.

Banks.—The abstract of the condition of the 131 State banks, Sept. 30, shows large gains in the holdings. There was an increase of over \$1,500,000 in the deposits subject to check over the statement of July 15, and of over \$209,000 in certificates of deposit. The total resources of the banks of the State are more than \$9,500,000.

Insurance.—A table giving details of fire insurance in the various States covers for North Dakota the twelve years 1889-1900, and shows that the risks taken in those years aggregate \$285,019,136, while the premiums paid in that time reach \$5,733,147. The total amount paid on life policies in 1900 was \$233,852.

Land.—Some of the school lands were sold in the autumn for the purpose of getting a part of the endowment in productive form. The amount sold was 29,288.13 acres, of which 120 acres were institution land, the remainder being common-school land. The total amount received is \$429,371.23. The highest average price was in Cass County, \$17.43 an acre. The general average was \$14.70.

At Minot, where is one of the five United States land-offices in the State, there were in the year 5,621 original homestead entries.

Legislative Session.—The Legislature convened Jan. 8, and adjourned March 8. Robert M. Pollock was Speaker of the House. On joint ballot there were 92 Republicans and 11 Democrats. During the session 216 laws and 4 resolutions were passed.

A committee was appointed to investigate the departments and report as to their management and the possibility of reducing expenses, and another for devising ways and means for increasing the revenues. Many of their recommendations were embodied in the laws.

It was provided that no party should have more than one list of nominees on the official ballot, and none should be represented by more than one organization. Delegates from caucuses are required to have a plurality only of the votes cast, not a majority, as formerly. The State was redivided into 40 senatorial districts, providing for 40 Senators and 100 Representatives.

Hereafter no insurance company not incorporated under the laws of this State shall write or

place any policy upon property in this State except after the risk has been approved by an agent who is a resident of this State, who shall receive the commission on the premium and make a record of the transaction, to the end that the State shall collect its taxes thereon.

The church property entitled to exemption from taxation was defined as including all real property not exceeding an acre, upon which there is church edifice or a building used for residence of bishop, priest, or rector.

Counties were authorized to issue bonds to buy seed grain for needy farmers, the value of the seed to be a lien upon the crop.

A State board of pardons was created, to consist of the Governor, Attorney-General, Chief Justice of Supreme Court, and 2 electors.

A State board for holding farmers' institutes was created, with an annual appropriation of \$1,500.

A stringent pure-food law was passed.

The tax in cities for public libraries was increased to 4 mills, at the option of voters.

A board of trustees was created for an institute for the feeble-minded at Grafton, with authority to select a site and erect a building.

A new game-law makes the open season for prairie-chickens begin Sept. 1 instead of Aug. 20. The killing of antelope is prohibited for ten years, and the sale of game of any kind is forbidden.

A board of barbers' examiners is created; every practising barber must be examined and pay a license fee.

Insanity was removed from the list of causes for divorce. The remarriage of divorced persons within three months from the time the divorce is granted is prohibited. It is provided that any one speaking disparagingly of the character of a woman shall be liable to a fine and imprisonment in the county jail.

The law for a bounty of \$3 on wolves was repealed, but another was made requiring the commissioners of each county to offer a bounty of \$2 on wolves and coyotes; they may offer \$5 to \$20 on buffalo and timber wolves.

It is made a misdemeanor to expose dressed beef for sale without having the hide on display for ten days.

Among the appropriations were \$88,600 for the Penitentiary; \$32,000 for maintenance of the Capitol for two years; \$5,000 for the Mayville Normal School; \$15,000 for Valley City Normal School; \$14,000 for the State Industrial School at Ellendale; \$17,500 for the Deaf School; \$20,300 for the Soldiers' Home for two years; \$18,000 for the Agricultural College; \$133,100 for the State Asylum at Jamestown.

A special tax of 1 mill was laid upon property for the support of the schools until a fund is realized from the land sales.

Other enactments were:

Abolishing the office of Commissioner of Irrigation and Forestry.

Repealing the law appropriating \$500 annually to promote immigration.

Permitting the sale of real estate by executors or administrators of estates when deemed for the interests of the estate.

Making the penalty for kidnaping five to twenty years imprisonment.

Requiring bonds from contractors on public buildings or works, to protect laborers and those furnishing materials.

Repealing bounties on starch, on spinning fiber, and on twine.

Requiring the minimum of capital of State banks to be \$10,000 in cities of 1,000 inhabitants.

Providing for a levy of a sinking-fund of one-thirtieth of bonded indebtedness of the State each year after 1901.

Providing that the Agricultural College shall cooperate with the United States in completing a survey of the State.

Directing the State Board of Equalization to assess at actual value franchise and property of express, freight, car, telegraph, and telephone companies, and apportioning mileage value to each organized county.

Taxing stock ranged in the State by non-resident owners.

Making it a misdemeanor to deface the United States flag or use it for advertising.

Providing for coal-mine inspection.

The constitutional amendment proposed by the Legislature of 1899 and referred to this, authorizing school funds to be invested in municipal bonds, was not repassed. Four amendments were proposed and referred to the next Legislature, as follow: For empowering the Legislature to provide for taxing grain in storage; for removing the Institution for the Feeble-Minded from Jamestown to Grafton; for changing the name of the Deaf and Dumb Asylum to School for the Deaf and Dumb; regarding sale of public lands.

Decisions on Laws.—Several laws of the State were tested in the courts this year. In May the United States Supreme Court sustained the State law relating to assessments for improvements by municipalities. The question of changes in county boundaries came before the Supreme Court, which held that they were in no wise changed by the act passed by the Legislature in 1895, previously held unconstitutional by the court, or by the curative act passed in 1899. The Attorney-General holds that the law imposing a tax of 50 cents a head on stock grazed through the State in transit is unconstitutional.

OHIO, a Central Western State, admitted to the Union in 1803; area (according to the geological survey), 41,060 square miles, of which 300 are water surface. The population, according to each decennial census since its admission, was 230,760 in 1810; 581,295 in 1820; 937,903 in 1830; 1,519,467 in 1840; 1,980,329 in 1850; 2,339,511 in 1860; 2,665,260 in 1870; 3,198,062 in 1880; 3,672,316 in 1890; and 4,157,545 in 1900. It ranks fourth among the States in point of population. Capital, Columbus.

Government.—The State officers during 1901 were: Governor, George K. Nash; Lieutenant-Governor, John A. Caldwell; Secretary of State, Lewis C. Laylin; Auditor of State, Walter D. Guilbert; Treasurer of State, Isaac B. Cameron; Attorney-General, John M. Sheets; Judges of the Supreme Court, Thad A. Minshall, Marshall J. Williams, Jacob F. Burket, William T. Spear, William Z. Davis, John A. Shauck; Clerk of the Supreme Court, Josiah B. Allen; Commissioner of Common Schools, Lewis D. Bonebrake; Dairy and Food Commissioner, Joseph E. Blackburn; Board of Public Works, Washington G. Johnston, Frank A. Huffman, Charles A. Goddard—all Republicans.

The term of the Governor, Lieutenant-Governor, Treasurer of State, and Attorney-General is two years, beginning in January of the even-numbered years; of the Secretary of State two years, beginning in January of the odd-numbered years; of the Dairy and Food Commissioner two years, beginning in February of the odd-numbered years; of members of the Board of Public Works and Clerk of the Supreme Court three years, beginning in February; of the Commissioner of Common Schools three years, beginning in July; of the

Auditor of State four years, beginning in January of even-numbered years; for judges of the Supreme Court six years, beginning in February. All are elected in November. The Legislature meets biennially in January; there is no limit to the length of the session.

Finances.—The balance in the treasury to the credit of the general revenue fund at the beginning of the fiscal year Nov. 16, 1900, was \$1,151,217.48. The total receipts of this fund during the year ending Nov. 15, 1901, amounted to \$5,272,177.97. The amount paid from the revenue fund during the fiscal year was \$5,196,370.99. During this fiscal year the sum of \$291,961.03 in excess of the previous year was actually paid for expenses of the State Government, owing largely to improvements on the Capitol grounds and buildings, monuments for the Shiloh battle-field, salaries of the Decennial Board of Equalization, expenses of the commissioners at the Pan-American Exposition at Buffalo, and expenses of the topographic survey.

The total receipts of the sinking-fund during the year, including the balance from the preceding year, were \$771,033.63. The total disbursements during the year were \$566,716.72, including a payment upon the funded debt of \$250,000. The funded debt will be totally extinguished by the payment on July 1, 1903.

The receipts of the State common-school fund during the fiscal year ending Nov. 15, 1901, including the balance, were \$1,914,359.41. This was all expended for the purposes of the fund except \$138,591.51 remaining in the treasury at the end of the year. The amount received to the credit of the University fund from taxes was \$364,330.27, and the balance on hand at the beginning of the year was \$84,220.56. During the year payments were made to the Ohio State University, Miami University, Wilberforce University, and Ohio University, at Athens, aggregating \$334,200.17. The total cost of the Government during the year, including general expenses, State debt and interest, common schools and universities, was \$7,873,615.78.

State Institutions.—The State educational, benevolent, and penal institutions include the Ohio State University, at Columbus; Ohio University, at Athens; Miami University, at Oxford; combined normal and industrial department of Wilberforce University; Ohio Institution for the Blind, at Columbus; Ohio Institution for the Education of the Deaf and Dumb, at Columbus; Ohio Institution for the Education of Feeble-Minded Youth, at Columbus; Girls' Industrial Home, at Rathbone; Ohio Soldiers' and Sailors' Home, at Sandusky; Ohio Soldiers' and Sailors' Home, at Xenia; Boys' Industrial School, near Lancaster; Athens State Hospital; Cleveland State Hospital; Columbus State Hospital; Dayton State Hospital; Longview Hospital, at Carthage; Massillon State Hospital; Ohio Hospital for Epileptics, at Gallipolis; Toledo State Hospital; Ohio Penitentiary, at Columbus; Ohio State Reformatory, at Mansfield. Omitting the 4 universities for these institutions, the State expended in 1901 \$3,251,319.96, of which \$2,492,366.64 were for current or ordinary expenses and the remainder for new buildings or permanent improvements. The daily average of inmates of these 17 institutions was 15,885, an increase over the previous year of 824, and the number of employees was 2,267, or 1 employee for each 7 inmates. The average cost per capita of all ordinary expenses and food was \$158.42, but there was a wide range from \$114 per capita in the State Hospital at Athens to \$237.68 in the State Reformatory, at Mansfield.

Military.—The Ohio National Guard is composed of 8 regiments, 1 of which has 12 companies each, 111 of which have 8 companies each, and 28 companies have 4 companies; a battalion of cavalry, and 2 troops of cavalry, and 1 troop of mounted rifles. The total number of men in the Guard is 14,000.

Railroads. The report of the State Commissioner shows that at the beginning of the year there were in the State 3,881 miles of track, a gain of 24.75 miles. The total mileage in this total for 3,881.69, an increase of 24.75. The taxes paid by the railroad companies aggregated \$2,642,400.79 (\$354.47 per mile of track) against \$2,556,946.64 (\$343.67 per mile) the year before. There were 66,249 railroad servants at work in Ohio last year. Of these, 176 were killed at their work and 5,589 (1 in every 12) were hurt. Passengers, 7 killed, 304 hurt; highway travelers, 82 killed, 160 hurt; "trespassers" (tramps, fool-hardy boys, etc.), 342 killed, 394 hurt.

There are 68 electric roads in operation, and 96 new companies (aggregate capital stock, \$24,361,000) were incorporated last year. The trolley companies report their gross earnings last year as \$13,582,851, which is \$2,281,479 more than in the preceding year.

Convict Labor.—By authority of the General Assembly, Gov. Nash appointed a commission of 4 citizens to investigate in regard to the employment of prison labor in the penal and reformatory institutions of the State. On Nov. 15, 1901, the commission submitted its report. It gave as the judgment of the commission that all convicts should be employed a reasonable number of hours each day, and in productive labor, "for without this there can be no health, no discipline, and no progress toward reformation." They further said that "idleness in prisons is dangerous, in that it gives free reign to the passions and is destructive of moral influence."

The Legislature.—There was no adjourned session of the General Assembly in 1901.

Political.—The Republican State Convention was held in Columbus, June 25, and the following ticket was nominated: For Governor, George K. Nash; Lieutenant-Governor, Carl L. Nippert; Judge of Supreme Court, James L. Price; Attorney-General, John M. Sheets; Clerk of Supreme Court, Lawson E. Emerson; Treasurer of State, I. B. Cameron; Member of Board of Public Works, W. G. Johnson. The platform adopted recapitulates and approves the acts of the Republican party, and then proceeds:

"We reaffirm all declarations heretofore made by the Republican party in favor of reciprocity, and urge the making of such additional treaties, based on the protective principle, as will further extend our commerce.

"We favor the further strengthening of our navy, and such legislation as will restore our merchant marine to preeminence upon the sea.

"We urge the speedy construction of an American ship-canal through the American isthmus as an imperative public need.

"We recognize the right of both labor and capital to combine, when such combinations are wisely administered for the general good, but combinations which create monopolies to control prices or limit production are an evil which must be met by effective legislation, vigorously enforced.

"The near expiration by limitation of the Chinese exclusion act calls for a renewal of the wise provisions by which the unrestricted immigration of Chinese into this country has been prevented.

"We demand that representation in Congress and in the electoral college shall be based on the actual voting population, as provided in the Constitution, proportionate reduction being made for any State in which the right of suffrage is denied, except for crime."

A series of resolutions approved the course of the national administration in regard to China, Cuba, Porto Rico, Hawaii, and the Philippine Islands, and approved also the State administration of Gov. Nash. The platform then proceeds to say:

"We favor such revision of the tax laws of the State as will require all classes of property to bear their equal and just share of taxation."

"During the last ten years the General Assembly has increased the revenue of the State by forms of taxation other than by levies upon real and personal property. We favor further legislation in this direction, to the end that the burden of taxation upon property may be lessened, and we denounce as unjust any scheme which aims to cast the entire burden of taxation upon real estate."

The Democratic State Convention was held in Columbus, July 10. The ticket nominated was as follows: For Governor, James Kilbourne; Lieutenant-Governor, Anthony Howells; Supreme Court Judge, Joseph Hidy; Clerk of Supreme Court, Harry R. Young; Attorney-General, M. B. McCarthy; State Treasurer, R. Page Aleshire; Member of Board of Public Works, James B. Holman. The platform makes a declaration of principles and policies, in which it says the government of municipalities of the State should be radically reformed, and wise general laws be enacted to correct abuses and prevent their recurrence.

"The Democratic party therefore calls upon the people to unite with it in placing the conduct of municipal affairs upon a business basis, that they may be administered by the people in the interest of all the people on the principle of home rule. No franchise, extension, or renewal thereof ever to be granted by any city or village without first submitting the same to a vote of the people."

"All public service corporations shall be required by law to make sworn public reports, and the power and duty of visitation and public report shall be conferred upon the proper State and local auditing officers to the end that the true value of the privileges held by these corporations shall be made plain to the people."

"Steam and electric railroads and other corporations possessing public franchises shall be assessed in the same proportion to their salable value as are farms and city real estate."

"The Republican majority of the General Assembly deserves the condemnation of the people for its reckless extravagance and the creation of useless offices, while it enacted no legislation for the benefit of the people."

"The reserved rights of the States and people to be upheld. Centralization which would destroy them to be condemned. A strict construction of the Constitution. The greatest individual liberty consistent with public order and welfare."

"The abolition of the so-called protective system and the substitution in its place of the traditional Democratic policy of a tariff for revenue, so levied as not to burden one industry for the benefit of another."

"We demand the suppression of all trusts and a return to industrial freedom. As a means to that end, all trust products should be placed on the free list and the Government should exercise a more rigid supervision of transportation lines and abolish, in fact, all discrimination in rates."

"Our merchant marine to be restored to its former greatness and made the ally of the people against monopoly by the repeal of antiquated and restricted navigation laws. But no subsidies for favored ship owners."

"The Democratic party has never favored, and now opposes any extension of the national boundaries not meant to carry speedily to all inhabitants full equal rights with ourselves. If these are unfitted by location, face, or character to be formed into self-governing territories and then incorporated into the Union of States in accordance with the historic policy of the republic, they should be permitted to work out their own destiny."

Other resolutions expressed sympathy for the Boers; upheld the Monroe doctrine; favored a navy commensurate with the international importance of the United States; demanded the faithful observance and wider application of civil-service principles, especially as regards our diplomatic and consular representatives; favored a constitutional amendment requiring the election of United States Senators by the direct vote of the people; and upheld the right of labor to combine for the assertion of its rights and the protection of its interests.

The Prohibition convention was held in Akron, May 16, nominated a full ticket, and adopted the usual platform. The only point of special interest in the proceedings was a contest over a plank advocating woman suffrage. Finally all reference to this matter was struck out, and for the first time since 1885 the Prohibition platform contained no plank on that subject. Union-Reform, Social-Labor, and Socialist tickets were also put in nomination.

The election was held Nov. 5, and resulted in the choice of the Republican candidates by pluralities varying from 67,567 for Gov. Nash to 84,663 for Justice Price.

In the election of the Legislature for 1902 the Senate stands—Republicans 21, Democrats 12; House—Republicans 68, Democrats 54.

OKLAHOMA, a Territory of the United States, organized in 1890; area, 38,715 square miles. The population in 1890 was 61,834; in 1900 it was 398,331. Capital, Guthrie.

Government.—The following were the Territorial officers in 1901: Governor, Cassius M. Barnes (Jan. 1 to May 13), William M. Jenkins (May 14 to Nov. 30), Thompson B. Ferguson (Dec. 9-31); Secretary, William M. Jenkins (Jan. 1 to May 13), William Grimes (May 14 to Dec. 31); Treasurer, Frank M. Thompson (Jan. 1 to Sept. 30), Cassius M. Rambo (Oct. 1 to Dec. 31); Attorney-General, J. C. Strang; Auditor and Superintendent of Public Instruction, L. W. Baxter; Chief Justice of the Supreme Court, J. H. Burford; Associate Justices, B. F. Burwell, B. T. Hainer, John L. McAttee, and C. F. Irwin. All are Republicans except Justice McAttee, who is a Gold Democrat.

The chief executive officers of the Territory are appointed by the President. A Territorial election is held in November of the even-numbered years, when the voters elect a Delegate to Congress and members of the Legislature, which holds biennial sessions, beginning in January of odd-numbered years.

Finances.—The special committee to investigate the Treasurer's office reported that the amount in the hands of the Treasurer Feb. 28, 1901, was \$316,752.88. The Treasurer's report showed that on March 30 the cash on hand was \$282,815.46. The total bonded and warrant indebtedness of the Territory was \$412,000. Terri-

torial warrants at that date were worth 0.98 and 0.99 on the market. The Legislature of 1901 authorized the use of the public building fund, amounting to \$125,212.52, in payment of certain indebtedness. The Territorial Board of Equalization in July reported the total valuation of the Territory at \$60,464,696, against \$49,338,661 in 1900, an increase of more than 18 per cent. In January, 1901, the amount to the credit of the common-school fund was \$119,395.95, which was distributed among the districts. The amount of taxes collected for 1900 available in January and June, 1901, was \$228,245.85.

Education.—In his message to the Legislature Gov. Barnes called attention to the report of the Superintendent of Public Instruction, from which it appeared that about one-fifth of the children of school age in Oklahoma did not attend any public school, and that the average daily attendance at all the public schools was but little more than two-thirds of the total enumeration.

Valuable geological researches have recently been made under the auspices of the University of Oklahoma. The work of the university in 1901 was successful. The graduating class in pharmacy, one of the largest ever graduated in the department, numbered 15. The last Legislature appropriated \$90,000 to the university for new buildings and improvements, and these, with a liberal gift of land from the city of Norman, will doubtless insure its permanent location there.

The Territorial Normal School, at Edmond, has completed its first decade. The enrolment for 1900-1901 was about 400.

The enrolment at the Northwestern Normal School, at Alva, reached about 500, and 354 students were enrolled at the opening in September.

Thirty-five students were graduated at the Agricultural and Mechanical College, at Stillwater.

A building for the new preparatory school of the University of Oklahoma has been erected at Tonkawa.

Important sessions were held in January, at Guthrie, by both white and colored Territorial associations of teachers. Both teachers' associations gave earnest attention to a presentation by the superintendent of the Children's Home Society of the work and needs of this "child-saving agency of Oklahoma."

The Insane.—Under the contract of the Territory with the Oklahoma Sanitary Company, an asylum for the insane is provided at Oklahoma City, to which quarterly visits of inspection are made by a committee of medical men appointed by the Governor. The reports during the year were very favorable to the management and success of this institution.

Banks.—At the beginning of 1901 there were on deposit in the banks more than \$6,000,000, or about \$16 for each inhabitant of the Territory. The bank reserve was much greater than the law required. The railroad extensions have led to rapid increase in the number of banks, and the securing of bank locations has become almost a special business. The number of Territorial banks, as shown by the Bank Commissioner's report, March 21, 1901, was 91, a gain of 12 over 1900. July 15, 1901, there were 113 reporting; Sept. 30, 127. At the last date the resources and liabilities amounted to \$8,508,826.17; increase of deposits from July 15, \$811,740.96; increase of loans and discounts, \$646,409.81, equal to 19½ per cent.; increase of cash and sight exchange, \$197,743.24.

Legislative Session.—Among the acts of the Legislature were these:

Providing for additional buildings for the Uni-

versity of Oklahoma; creating a Agricultural and Mechanical College; and authorizing the latter was \$12,000, the sum appropriated by Gov. Barnes, but Congress had already granted a writ requiring it to be paid. The Legislature of the Territory, on the ground that the money was in the Governor's hands, refused to pass a bill within which a veto could be avoided.

Creating a Territorial Board of Agriculture, to consist of 6 members and the Governor, 3 members to be elected by annual sessions of delegates from county farmers' institutes.

To establish a normal school in the southwestern portion of the Territory. In pursuance of this act, Gov. Barnes, in May, appointed a board of regents for this institution, the location of which was assigned to Greer County.

To prohibit the sale or offering for sale or bringing into the Territory for the purpose of sale, or giving away, any cigarettes, cigarette-paper, or substitute thereof, and making it a misdemeanor for any person except parents or guardians either for himself or for another, to give away cigars, chewing-tobacco, or tobacco in any form, to a minor under the age of fifteen years.

To establish at Tonkawa a preparatory school for the University of Oklahoma.

Land Opening.—By a proclamation of President McKinley, July 4, 1901, about 3,000,000 acres of land in the southwestern part of the Territory were opened to settlement under the provisions of the United States homestead and town-site laws. The excitement attending the occupation of the new country aroused an interest throughout the Union only second to that awakened by the original rush to Oklahoma twelve years before. The district was speedily populated, and an official estimate places the present number of settlers at 50,000. The new country has been divided into three counties, named Comanche, Caddo, and Kiowa, after the former Indian reservations in this section. The county-seats are Lawton (Comanche County, estimated population, 8,000); Anadarko (Caddo County, estimated population, 3,000); and Hobart (Kiowa County, estimated population, 3,000).

Productions.—Nowhere is diversification of crops more practicable than in Oklahoma. When any cereal crop is destroyed, in its place may be planted Kafir-corn, cotton, broom-corn, melons, Irish or sweet potatoes, or peanuts. The Territory produces the finest quality of cotton.

The salt industry at Geary has stimulated interest in the development of the salt resources of the Territory, which are said to be ample for the needs of the Southwest.

Oil was found last summer on a farm near Moscow, in Woodward County, with indications that created considerable excitement and increased land values in the vicinity.

Railroads.—The railroad mileage was much increased in 1901. Important extensions into the heart of Oklahoma have been made by the Rock Island Railway Company, chief of which is a line to Lawton and continuing southwest into the center of the newly occupied homestead country. This is a direct branch from the Mangum line, which extends almost due west from Chickasha. Another new branch runs south.

Lawlessness.—In May a resident of Ioland, Day County, was taken from his home by a posse of cattlemen, and hanged. The victim had been suspected of poisoning the water that the cattle drank, and "he was lynched as a warning to others." This is said to have been the first lynching in Oklahoma since the organization of the Territory. In the preceding March a mob had

attempted to lynch a man for murder in Noble County, but was prevented by a sheriff.

Statehood.—A special committee of the Legislature submitted to the President and Congress a memorial in which they said: "We represent a constituency of nearly 500,000 people, increasing with unexampled rapidity, who inhabit nearly 40,000 square miles of fertile soil, and who own \$150,000,000 of wealth produced in a single decade from the wild prairies and the wilderness. They have built and are supporting more than 2,000 common schools, 6 great institutions of learning, and more churches according to population and wealth than anywhere else in the world. They are a law-abiding and a law-enforcing people. We submit that such a people ought not to be longer held in political subjection, but are and of right ought to be entitled to immediate admission into the American Union."

Political.—The retirement of Cassius M. Barnes, the fourth Governor of Oklahoma, and the inauguration of William M. Jenkins, the fifth, marked a period of deep interest to the people of the Territory. During the three years of Gov. Barnes's administration there had been remarkable development in all directions, and the new executive entered upon his office at a moment when opportunities were to be still further enlarged, and when the prospects of Oklahoma were particularly bright.

OREGON, a Pacific coast State, admitted to the Union Feb. 14, 1859; area, 94,560 square miles. The population was 13,294 in 1850; 52,465 in 1860; 90,923 in 1870; 174,768 in 1880; 313,767 in 1890; and 413,536 in 1900. Capital, Salem.

Government.—The following were the State officers in 1901: Governor, Theodore T. Geer; Secretary of State and Auditor, Frank I. Dunbar; Treasurer, Charles S. Moore; Attorney-General, R. D. N. Blackburn; Superintendent of Public Instruction, J. H. Ackerman; Adjutant-General, C. U. Gantenbein; Chief Justice of the Supreme Court, Charles E. Wolverton; Associate Justices, Robert S. Bean and Frank A. Moore; Clerk, J. J. Murphy—all Republicans.

The term of the State officers is four years, and they are elected in June of even-numbered years, alternating with the presidential elections. In June of all the even-numbered years members of Congress, the Legislature, and a justice of the Supreme Court are elected. The Legislature holds biennial sessions, beginning in January of odd-numbered years, and continuing forty days. It consists of 30 Senators, elected for four years, and 60 representatives.

Population.—According to a Census Office bulletin 56.3 per cent. of Oregon's population are males. The males number 232,985; females, 180,551; native-born population, 347,788; foreign-born, 65,748. The population consists of 394,582 whites, 10,397 Chinese, 4,951 Indians, 2,501 Japanese, and 1,105 negroes. The white population is mostly native, 256,125 being born of native parents and 84,596 of foreign parents, while the foreign whites number 53,861. In the city of Portland there were 34,777 native and 18,351 foreign-born males, and 29,773 native and 7,525 foreign-born females; 9,138 colored males, all Chinese and Japanese, except 458 negroes and 763 colored females.

Finances.—The fixed, or current, expenses of the State amount annually to nearly \$620,000. To raise this sum annually a levy of 5.16 mills upon an assessed valuation of \$120,000,000 is necessary. The Treasurer reminds the taxpayers that the revenue needed will increase from year to year, and makes recommendations for raising it.

The receipts of the treasury for 1900 were \$1,894,004.59; disbursements, \$1,690,697.62; balance Dec. 31, \$944,623.40.

The Treasurer's report for the six months ending June 30, 1901, gives the receipts for that period, including the balance at the close of 1900, as \$2,053,123.54; disbursements, \$958,185.43; balance July 1, 1901, \$1,094,938.11. The receipts of the general fund were \$615,980.17, and the disbursements \$465,878.58. The receipts of the common-school fund were, principal \$246,849.28, and interest \$79,619.14; disbursements from the principal, \$297,497.10, and from the interest, \$7,704.01.

From the report of the Treasurer for the six months ending Dec. 31, 1901, it appears that the receipts, including the balance of July 1, were \$1,759,246.46; disbursements, \$930,949.21; balance Jan. 1, 1902, \$828,297.25. The receipts of the general fund for the second six months were \$170,403.09, and the disbursements \$391,653.77. The receipts of the common-school fund were, principal \$285,321.65, and interest \$103,306.48; disbursements from the principal \$270,531.30, and from the interest \$175,903.97. July 20 the aggregate of funds loaned to the counties on account of the common-school fund was \$2,210,400.57; Agricultural College fund notes, \$131,556.37; university fund notes, \$83,997.31. In 1901 the loans from the common-school fund made a net gain of \$218,000, representing the increase of the interest-drawing fund whereby the revenue of the common schools was increased about \$13,000 a year. The total amount of outstanding notes of the school fund, Dec. 31, was \$2,308,371.49, against \$2,090,623.32 the preceding year.

The revenue of 1901 was \$670,000. Under an act of the Legislature of that year, each county will hereafter contribute to the expenses of the State in the proportion of its average assessments to those of all the counties for five years past.

Education.—Statistics for the year ending March 4 showed a school population of 135,818, a gain of 2,637 over 1900. There were losses in the northwestern counties, which were more than offset by the increase in the southern and eastern parts of the State. On the basis of the school population the Treasurer, Aug. 1, made the annual apportionment, distributing \$165,697.96, the proceeds of the irreducible common-school fund, among the counties. In 1900 the per capita was \$1.56; in 1901 it was \$1.22. The amount disbursed in 1900 was unusually large, owing to the fact that in order to secure a reduction in the rate of interest on their loans, borrowers had been paying up arrearages of interest. The rate of interest was cut from 8 to 6 per cent., and this accounts for a part of the decrease in the amount disbursed.

The State University, at Eugene, in June completed the twenty-fifth year of its work, and commemorative exercises were held. The number of instructors during the year was 62; number of students, 456; graduates, with the bachelor's degree, 31; volumes in the library, 15,000. A new light and power station was provided for by the last Legislature. There were substantial additions last year to the corps of instructors and to the general equipment.

The Agricultural College, at Corvallis, had an enrollment of 430, and an average attendance larger than in any previous year. The graduates in June numbered 34. A new business course has been established. The new mechanical hall is finely equipped. The regents made arrangements early in the year for carrying out the act of the last Legislature for establishing an experiment station at Union. Six hundred acres of branch-

asylum lands have been deeded to the college for this purpose. The action of the regents in 1900 prohibiting participation by the students in intercollegiate athletic contests was followed last year by the adoption of a resolution permitting such competition, provided that agreement should be had with other colleges for reforming the rules governing the games.

The Monmouth Normal School graduated a class of 24; Eastern Oregon State Normal School, at Weston, 11; Southern Oregon State Normal School, at Ashland, 4; Albany College, 15.

In July the Oregon Text-Book Commissioners finished their work of selecting text-books for adoption by the State, which were to be in use in all the schools within fifteen months. The estimated cost of the change of books was about \$99,600, or \$1.10 per pupil.

Charities and Corrections.—The legislative committee for the inspection of the Oregon Soldiers' Home made a satisfactory report of its condition, and recommended a general appropriation of \$24,000 and several special appropriations.

Feb. 18 the patients at the Oregon Insane Asylum numbered 1,200, more than there had ever been before at one time. In July there were 1,236 under treatment.

March 31 the number of convicts in the Oregon Penitentiary was 295, an increase of 17 from the beginning of the year.

Productions.—The wheat-crop of 1901 was estimated at more than 14,000,000 bushels, about half that of Washington. The hop production, which in 1900 reached 82,000 bales, was estimated in 1901 at 60,000 to 65,000 bales, but the crop was said to be of the first quality. In October the Secretary of Agriculture estimated the beet-sugar production of Oregon at 2,000 tons, the same as that of Washington. In November the estimate of the salmon pack, spring and autumn, placed it at about 240,000 cases.

The report of Oregon manufactures for 1900 returns 3,088 establishments, against 1,523 in 1890. The capital represented in 1900 was \$33,422,393; salaries, \$1,323,155; average number of wage-earners, 17,236; total wages, \$8,333,433. The miscellaneous expenses were \$2,242,795; cost of materials used, \$26,099,853; value of products, including custom work and repairing, \$46,000,587. The percentage of population engaged in manufactures was 4.2. The assessed value of real estate represented was \$117,804,874; value of land and buildings invested in manufactures, exclusive of rented property, \$10,282,493. The share of Multnomah County in the total value of manufactures was \$24,750,579, and that of the city of Portland \$23,451,132.

Among the more important industries in which gains were made between 1890 and 1900 were fish canning and preserving, flouring and grist-mill operations, lumber manufacture and woodworking, wooden ship-building and boat-building, slaughtering and meat-packing, and the manufacture of woolen goods.

About 900,000,000 feet of lumber were sawed in Oregon in 1900, the value of which was \$8,802,500. The output of 1901 was much larger, about one-third of the whole being cut in Portland.

The Oregon Women's Flax Fiber Association has demonstrated the practicability of establishing a profitable flax-growing industry in the State. The association has received encouragement from the United States Department of Agriculture, to which its samples have been submitted, and is making earnest and well-directed efforts to place the industry under State control.

Under direction of the United States Department of Agriculture, a large amount of work has been made of the poison which has been doing great loss to the stock-raising industry. The expert of the department has been sent to the State, as well as through the various counties, to spread poisonous plants, such as the yellow canna, camass, larkspur, water hemlock, etc.

Legislative Session.—The Legislature convened on Jan. 14, 1901, with John H. Mitchell United States Senator. Among the enactments of the session were the following:

Relating to primary elections in cities of more than 10,000 inhabitants, and to counties of 50,000 or more, and such other counties as may voluntarily adopt the act. The act is to govern all the operations of political parties within a single county.

Looking to the election of United States Senators by direct vote of the people.

For the protection of union labels.

Providing for submission to the people of the amendment for the initiative and referendum. Thereby 8 per cent. of the voters may propose any amendment to the Constitution, or any desired law to be voted upon at a general election. Furthermore, on petition of 5 per cent. of the voters, approval or disapproval of any State legislation, except some emergency laws, is, under the initiative and referendum, left to the vote of the people.

Creating the office of State bacteriologist.

Providing for enforcement of respect for the United States flag.

Enacting the Torrens system of public-land registration.

A new bicycle law, authorizing county courts to construct bicycle paths and to levy a license tax of \$1 upon each person riding a bicycle in the county.

Providing for a \$3 road poll-tax, from which active members of the National Guard are exempt.

Establishing an experiment station at Union.

Making personal property taxable in the city or county where it is located.

Appropriating \$8,000 for a monument to the Oregon soldiers.

A new game code, and a new scalp-bounty law.

The general and special appropriations of this Legislature were considerably larger than those of the one preceding. The total amount in 1899 was \$1,389,044.25; in 1901, \$1,792,911.88. Of this sum, \$787,222.43 was for State institutions.

Scalp Bounty.—The amount of bounty warrants issued under the old law was \$120,000. Upon these there was due in September, 1901, about \$12,000 interest, making a total of \$132,000. The last Legislature levied a tax of 1 mill, which produced approximately \$117,000, which sum has been paid into the State treasury from the several counties.

Transportation.—Oregon has about 2,000 miles of railroad. A recent addition is that of the Columbia Southern, which in October had in operation 70 miles, from Biggs to Shaniko, and was projected 100 miles farther south. It is allied with the Oregon Railroad and Navigation Company, which has about 600 miles of track, besides its 290 miles of water lines in the State. The Southern Pacific Company now operates about 700 miles in Oregon.

Portland.—Many laws of the last Legislature affecting Portland have an important bearing upon the administration and expenditures of the city, making, on the whole, a large reduction of expenses. The Portland charter bill, which the Legislature passed, was vetoed by the Governor.

The city's charter commission, which consists of 33 members, representing the political and business interests of Portland, will submit a charter to a vote of the people in 1902. If ratified, it will be presented to the Legislature of 1903 for "approval or rejection, as a whole, without the power of alteration or amendment."

Trolley-lines now connect Portland with Oregon City, 15 miles south, and with Vancouver, Wash., 7 miles away.

State Monument.—In honor of the 52 men who organized the provisional Government of Oregon, May 2, 1843, a monument erected by the State was unveiled May 2, 1901, at Champoege. The monument is of polished Oregon granite, 7 feet high, including the pedestal. On its face it bears the following inscription: "Erected on Thursday, May 2, 1901, in honor of the first American Government on the Pacific coast, organized here Tuesday, May 2, 1843, 52 persons voting for, 50 against. The names of the former, as far as obtainable, are hereon inscribed."

Centennial.—The official name of the exposition to be held at Portland in 1905, as decided upon by the Oregon and Washington commissioners, is "The Lewis-and-Clark Centennial and American-Pacific Exposition." The legend chosen to lead the title-pages of all the literature on the subject is the familiar clause, "Where rolls the Oregon," from Bryant's *Thanatopsis*.

PENNSYLVANIA. A Middle State, one of the original thirteen, ratified the Constitution Dec. 12, 1787; area, 45,215 square miles. The population, according to each decennial census, was 434,373 in 1790; 602,365 in 1800; 810,091 in 1810; 1,047,507 in 1820; 1,348,233 in 1830; 1,724,033 in 1840; 2,311,786 in 1850; 2,906,215 in 1860; 3,521,951 in 1870; 4,282,891 in 1880; 5,258,014 in 1890; and 6,302,115 in 1900. Capital, Harrisburg.

Government.—The following were the State officers in 1901: Governor, William A. Stone; Lieutenant-Governor, J. P. S. Gobin; Secretary of the Commonwealth, William W. Griest; Secretary of Internal Affairs, James W. Latta; Treasurer, James E. Barnett; Auditor-General, E. B. Hardenbergh; Attorney-General, John P. Elkin; Adjutant-General, Thomas J. Stewart; Superintendent of Public Instruction, N. C. Schaeffer; Insurance Commissioner, Israel W. Durham; Commissioner of Banking, Frank Reeder; Secretary of Agriculture, John Hamilton; Commissioner of Forestry, J. H. Rothrock; Dairy and Food Commissioner, Jesse Cope; Zoologist, H. T. Fernald; Factory Inspector, James Campbell; Veterinarian, Leonard Pierson; Librarian, George E. Reed; Superintendent of Public Buildings and Grounds, T. L. Eyre; Chief Justice of the Supreme Court, J. B. McCollum; Associate Justices, J. Hay Brown, James T. Mitchell, William P. Potter, John Dean, D. Newlin Fell, and S. L. Mestrezat; Prothonotaries, Charles S. Greene, William Pearson, and George Pearson; Justices of the Superior Court, C. E. Rice, J. A. Beaver, William D. Porter, George B. Orlady, P. P. Smith, William W. Porter, and John I. Mitchell. N. C. Schaeffer and Judges McCollum and Smith are Democrats; the others are Republicans.

The Governor, Lieutenant-Governor, and Secretary of Internal Affairs are elected in even-numbered years for a term of four years; the Treasurer in odd-numbered years for a term of two years. The Secretary of the Commonwealth, the Attorney-General, and the Adjutant-General are appointed by the Governor at pleasure, and the Superintendent of Public Instruction for four years. The Legislature holds biennial sessions, beginning in January of odd-numbered years.

Senators are elected for four years, and Representatives for two years.

Finances.—For 1901 the State revenues were estimated by the Treasurer in March at \$13,125,503.50, and the expenses at \$12,684,871.50. In items of expense the Treasurer included \$6,000,000 for the public schools and \$100,000 for purchase of land for State forestry reservations. The estimates contemplated the restoring of \$500,000 deducted from the school appropriation two years before. The Treasurer's estimates did not include any expenditure for the State Capitol, for which the Legislature had appropriated \$4,000,000. A large part of the increase in net receipts for 1900 came from delayed payments for 1899. The net indebtedness of the State has been reduced to less than \$800,000. No State loans will fall due till 1912.

"On the whole," the Treasurer says, "the business of the department has felt the prosperous condition of the country in a marked degree, both in the prompt payment of taxes and in the increased receipts."

Valuation and Taxation.—As shown by the latest report of the Secretary of Internal Affairs, the value of all real estate is \$3,069,371,624, an excess over the figures of the preceding report of \$41,722,325. In Philadelphia County the year's increase was from \$985,682,064 to \$1,003,899,449, and in Allegheny County from \$540,490,185 to \$549,301,515. The value of real estate exempt from taxation is stated at \$302,541,939, against \$299,485,963 for the year previous. Of taxable real estate, the total amount is given as \$2,766,829,685, a gain over the year before of \$38,666,349. The total amount of taxes collected for all purposes is reported at \$57,649,889, against \$55,808,585 the previous year. Of this the amount assessed for State purposes is \$2,900,536. The year before it was \$2,732,757.

Education.—The annual report of the Superintendent of Public Instruction for the year ending June 30, 1901, presents these facts concerning the public schools: Number of school districts, 2,516; schools, 29,046; graded schools, 16,625; male teachers, 9,194; female teachers, 20,850; average salary of male teachers per month, \$44.14; average salary of female teachers per month, \$38.23; whole number of pupils, 1,161,524; average attendance, 847,445; teachers' wages, \$11,355,334.47; cost of text-books, \$766,987.10; cost of other supplies, \$433,597.76; fuel, contingencies, fees of collectors, and other expenses, \$5,275,382.32; total expenditures, \$22,813,395.14.

The new compulsory education law, approved July, 1901, went into effect in September. The age limit includes all children between eight and sixteen years, and provides that those between thirteen and sixteen may be excused if they can read and write the English language intelligently and are regularly employed.

Building and Loan Associations.—The annual report of the Banking Department furnishes these figures upon building and loan associations: Number chartered under the laws of the State reporting to the department, 1,155. Assets, total, 1900, \$110,493,510.31; 1899, \$112,120,436.61; decrease, \$1,626,926.30. Liabilities, total, 1900, \$110,493,510.31; 1899, \$112,120,436.61; decrease, \$1,626,926.30. Receipts, total, 1900, \$55,565,030.19; 1899, \$53,137,355.77; increase, \$2,427,674.42. Disbursements, total, 1900, \$55,565,030.19; 1899, \$53,137,355.77; increase, \$2,427,674.42.

Banking.—The Commissioner of Banking, in the annual report of his department, returned the following corporations as under its supervision Nov. 30, 1900: Banks, 101; trust companies, 111;

savings institutions, 17. Statement of capital: Banks, \$8,774,380; savings institutions, \$110,200; trust companies, \$41,682,615; total, \$50,567,195; increase over 1899, \$5,450,577.50. Surplus: Banks, \$6,517,978.50; savings institutions, \$7,758,754.99; trust companies, \$21,932,994.30; total, \$36,209,727.79; increase over 1899, \$9,613,869.54. Deposits: Banks, \$79,031,082.19; savings institutions, \$107,621,381.19; trust companies, \$168,824,969.11; total, \$355,477,432.49; increase over 1899, \$30,596,726.65.

Insurance.—From the annual report of the Insurance Department it appears that the life insurance business done in the State in 1900 was as follows: The companies of the State issued 8,480 policies, insuring \$23,562,971 upon the lives of residents of the State, an increase over the preceding year of 864 policies and \$3,467,512 insurance. Companies of other States issued 637,944 policies in Pennsylvania, insuring \$195,165,204. The total losses paid by all life companies in the State in 1900 was \$12,458,677.49, of which home companies paid \$1,485,217.90 and companies of other States \$10,973,459.59. The expenditures of Pennsylvania companies in 1900 were \$13,905,739, of which \$9,423,616.35 was paid to policyholders.

The fire and marine insurance business of 1900 is thus summarized: Number of joint-stock companies, 36; assets, \$45,468,198; liabilities, except capital, \$23,611,707; capital, \$11,702,875; surplus, \$10,166,584; premiums received, \$17,971,288; total receipts, \$20,633,184; losses paid, \$11,978,839; dividends paid, \$1,248,969; disbursements, \$20,747,935; risks in force, \$2,802,971,128. The increase in fire risks over 1899 was \$1,227,174,817; in marine and inland risks, \$553,772,260; in fire losses paid, \$3,902,212.95; decrease in marine and inland losses paid, \$1,473,349.62.

Railroads.—The report of the State Bureau of Railways, covering the year ending June 30, 1901, gives the capitalization of the steam railroads of Pennsylvania as \$3,086,690,205, which is nearly one-third of the entire railroad capitalization of the United States. The assets were \$3,200,353,755; total mileage, 26,975.86; mileage in Pennsylvania, 10,697.68—more than in any other State except Illinois; locomotives, 12,133; passenger-cars, 10,930; freight-cars, 537,409; employees, 335,865, an increase during the year of 28,128; compensation to employees, \$189,204,533, an increase for the year of more than 7 per cent; total income, \$534,214,627, against \$498,012,493 in 1900. The total expenditures of all kinds, excepting dividends, were \$467,159,172; dividends paid, \$38,610,816.

The same report says: "This year the total earnings of street-railways from operation were \$26,424,396; income from other sources, \$973,747. There were paid out for operating expenses \$13,111,492; for taxes, \$1,676,746; interest on funded indebtedness, \$2,336,753; rentals, \$6,473,729; other expenses, \$938,170. To this may be added dividends paid, \$1,506,289, making a total of \$26,038,159. Now the length of single-track and branches operated is 1,768.90 miles, with a total length of all tracks of 2,167.91 miles.

Industrial.—The annual report of the Bureau of Industrial Statistics, submitted July 1, 1901, gives these figures for the pig-iron production in 1900: Capital invested, \$72,188,784; gross tons, 6,371,688; realized value, \$105,499,923; average realized value per ton, \$16.55; average days in operation, 323; working people employed, 15,785; aggregate wages paid, \$8,500,194; average earnings for the year, \$538.50; average daily wage, \$1.67.

The production of pig-iron in 1900 was: Bessemer, 4,500,000 tons; open-hearth, 1,871,688 tons; crucible, 64,500 tons; total, 6,371,688 tons. The value of the production was \$105,499,923.

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The combined production of tin and tenné plate by the black-plate works (17 plants) and the dipping works (6 plants) was 297,854,000 pounds, having a total value of \$13,044,487, and an average value per 100 pounds of \$4.38.

For the year ending June 30, 1900, there were 127 glass factories reported as having plants, machinery, etc., valued at \$22,162,429, and employing 23,033 workmen, a little less than half of whom were classed as skilled. The aggregate wages amounted to \$10,548,257; average earnings for the year, \$457.96; average daily wage, \$1.95, varying from \$3.03 for skilled workmen to \$1.32 for unskilled, 84 cents for women, and 60 cents for children. The market or selling value of the products was \$21,186,246.

The report of the Bureau of Mines for 1900, presented May 1, 1901, states that the strike in the anthracite region, in September and October, caused a decrease in the production of anthracite from 54,034,224 tons in 1899 to 51,217,318 tons in 1900. The production of bituminous coal in 1900 was 79,318,362 tons, an increase of 6,251,419 tons over 1899. The combined production of anthracite and bituminous coal reached a grand total of 130,535,680 tons, an increase over that of 1899 of 3,434,408 tons, and the largest production for a single year. In 1900 the production of coke was 12,185,112 tons, a decrease of 7,458 tons from that of 1899. The number of employees in and about the anthracite mines in 1900 was 143,826—3,243 more than in 1899; in and about the bituminous mines, 109,018, an increase of 17,578 over 1899. The reduction of fatalities, compared with 1899, was 103, or 0.39 per cent. per 1,000 persons employed.

As reported by the Secretary of Agriculture, the number of horses and mules returned in 1900 was 618,234—probably fewer than half the actual number owned in the State—of which the value was given at \$24,520,924; number of neat cattle under four years of age, 637,109, valued at \$12,070,073. The cows were estimated at about 1,100,000, producing nearly 100,000,000 pounds of butter annually, from which the income was nearly \$20,000,000, while the milk product was valued at \$35,000,000.

Legislative Session.—The general appropriation of the Legislature of 1901 carried more than \$15,900,000 for payment of the ordinary expenses of the State Government for the ensuing biennial period. The appropriation for public schools was \$11,000,000. The grand total of all appropriations was \$28,427,575.33. From this amount a reduction of about \$2,250,000 was made by the Governor for the purpose of keeping within the estimated State revenues for the biennial period, which were \$26,500,000.

There were enacted 541 laws, of which 386 were repeals, and 40 resolutions were approved by both houses. Some of the measures enacted were:

Providing for submission at the next general election of three constitutional amendments: (1) Requiring personal registration of votes; (2) pro-

viding that personal registration laws may be enacted to apply to cities only; (3) authorizing the use of voting-machines at elections.

A new charter act, allowing the formation of corporations for any lawful purpose.

To enforce the provisions of section 4, Article XVII of the Constitution. It provides that no railroad or transporting company shall consolidate with or own a controlling interest in parallel or competing companies.

Providing that it shall be a misdemeanor for any person connected with any line of telegraph or telephone within the State to divulge the contents of any despatch.

Prohibiting the employment of children under eighteen years of age for theatrical or athletic performances, without the consent of their parents or guardians.

To provide for the centralization of high schools, and to provide high schools for townships.

Making it unlawful for first cousins to be joined in marriage.

To encourage the planting of trees along the roadsides.

Prohibiting the sale and furnishing of tobacco to persons under sixteen years of age.

Providing for the establishment of night-schools for manual training.

For the erection of a monument to John Burns, of Gettysburg, who served in the Iron Brigade.

For registration and protection of trade-marks.

Making it a felony to take the waste or packing from any journal-box of a locomotive—"an act apparently aimed at violence to prevent the running of trains."

Requiring an examination as to competency for plumbers.

Creating a forestry commission.

Judicial Decisions.—In October the Supreme Court handed down a decision declaring certain acts of the Legislature of 1901, popularly known as the "ripper" bills, to be unconstitutional on the ground of special legislation. The bills provided for the election of 3 persons in each county that is coextensive in boundary with a city of the first class, "to serve as members of the Board of Revision of Taxes," etc. "This description," says the court, "can not apply, either at the present time or in the proximate future, to any county but Philadelphia, and for that reason the act is distinctly local and special."

A Superior Court decision in October, confirming the ruling of the Quarter Sessions Court of Philadelphia, declared that any ingredient injurious to health can not be used as a food preservative, even in quantities not harmful, without violating the pure-food act of 1895.

Mason and Dixon's Line.—In the reestablishment of this famous boundary good progress had been made at the end of the year. Such stones as remain in fit condition are reset in solid cement bases, and missing and broken stones are replaced with iron markers. The boundary stones are a mile apart. They have "M" on the Maryland side and "P" on the Pennsylvania side. The 5-mile stones are larger than the others, and have on the Maryland side the coat of arms of Lord Baltimore and on the Pennsylvania side the coat of arms of the Penns.

Floods.—Storms and floods of memorable severity occurred in April in the western part of Pennsylvania, Pittsburg and Allegheny suffering immense property losses, and many other places adding to the list of damages and disasters. In December the eastern and central portions of the State were visited by a still more widespread

disturbance, involving loss of life as well as enormous destruction of property.

Political.—At the election in November Frank G. Harris, Republican, was elected State Treasurer by a plurality over E. A. Coray, the Democratic candidate, of 131,543. Coray also received 93,213 votes as the Union candidate and 4,302 as candidate of the Municipal League, while the vote of Harris was increased by 11,542 cast by the Public-Opinion voters, who made him their candidate. Porter, Prohibitionist candidate, received 18,044 votes. William P. Potter, Republican, was elected a justice of the Supreme Court. The 3 constitutional amendments submitted to the voters were carried at the polls.

RHODE ISLAND, a New England State, one of the original thirteen, ratified the Constitution May 29, 1790; area, 1,250 square miles. The population, according to each decennial census, was 68,825 in 1790; 69,122 in 1800; 76,931 in 1810; 83,015 in 1820; 97,199 in 1830; 108,830 in 1840; 147,545 in 1850; 174,620 in 1860; 217,353 in 1870; 276,531 in 1880; 345,506 in 1890; and 428,556 in 1900. Capital, Providence.

Government.—The following were the State officers in 1901: Governor, William Gregory; Lieutenant-Governor, Charles D. Kimball; Secretary of State, Charles P. Bennett; Treasurer, Walter A. Read; Attorney-General, Willard B. Tanner; Auditor and Insurance Commissioner, Charles C. Gray; Commissioner of Education, Thomas B. Stockwell; Adjutant-General, Frederick M. Sackett; Railroad Commissioner, E. L. Freeman; Commissioner of Industrial Statistics, Henry E. Tiepke; Record Commissioner, R. Hammett Tilley; Factory Inspectors, J. Ellery Hudson, Helen M. Jenks; Surgeon-General, George H. Kenyon; Inspector of Beef and Pork, James R. Chase; Inspector of Lime, Herbert Harris; Commissioners of Sinking-Funds, John W. Danielson and Henry B. Metcalf; Inspector of Cables, S. B. Hoxsie, Jr.; Inspector of Scythe Stones, W. H. Comstock; Chief Justice of the Supreme Court, John H. Stiness; Associate Justices, Pardon E. Tillinghast, George A. Wilbur, Horatio Rogers, W. W. Douglas, Edward C. Dubois, and John T. Blodgett; Clerk, B. S. Blaisdell. All the State officers are Republicans.

The State officers are elected annually in November, the term beginning in the following January. The Legislature holds annual sessions, beginning in January. The length of the sessions is not limited, but the legislators can draw pay for only sixty days.

Population.—A census bulletin published Sept. 10, 1901, gives the population by sex, nativity, and color in the State as follow: Males, 210,516; females, 218,040; foreign born, 134,519; colored, 9,506, of which 9,092 are negroes, 266 Chinese, 13 Japanese, and 35 Indians. The State had in 1900 7,524 more females than males. The foreign-born element constitutes a large proportion of the total population, being nearly one-third, or 31.4 per cent.

This is the analysis for Providence: Males, 57,864 native, 27,208 foreign born, 2,548 colored; females, 61,878 native, 28,647 foreign born, 2,548 colored.

Finances.—The balance in the treasury Dec. 31, 1900, was \$178,589.08; receipts for the year ending Dec. 31, 1901, \$1,577,294.41; total, \$1,755,883.49; payments for the year, \$1,597,505.78; cash in hand at the end of the year, \$158,377.71. The Treasurer's estimates of receipts for 1902 amounted to \$1,515,450, and of payments, exclusive of temporary or special appropriations, to \$1,344,835; estimated balance in the treasury Dec. 31,

1902, \$328,887.71. Of the \$3,000,000 of State-house construction loan bonds which had been issued, bonds amounting to \$22,000 were retired during the year, leaving a total bonded indebtedness of \$2,978,000, while the amount of interest paid on the bonds was \$87,000.

The statement of the sinking-fund is as follows: Balance Dec. 31, 1900, \$338,036.35; Treasurer's check, \$32,000; premium on sale of third State-house bonds, \$28,770; interest on investments for 1901, \$13,185.50; total, \$411,991.85; bonds due in 1904 purchased and retired, \$22,555.24; total, \$389,436.61. The State-house construction loan account had a balance Jan. 1, 1901, of \$119,775.61; interest on deposit, \$3,081.03; sale of third State-house bonds, \$700,000; miscellaneous, \$10; total, \$822,866.64; payments to Dec. 27, 1901, \$350,981.49; cash available, \$471,885.15.

All work on the State-house is expected to be finished during the current year, and the entire cost as estimated by the Board of State-house Commissioners will be \$3,114,402, of which the total cost to the State will be \$2,924,402, the land given by the city of Providence being valued at \$190,000. The cost of the building proper, including boiler-house and tunnel, is placed at \$1,953,821.49.

In further settlement of the State's Spanish War claims against the Federal Government

the total amount of cash returned to the State treasury during the year, including interest on deposit, was \$74,071.51.

Education.—The school enrolment in 1900 was 64,537, or 15.39 per cent. of the population of the State; average daily attendance, 46,087; total number of teachers, 1,913.

Brown University had in 1901 899 students and 75 instructors. The library had grown to 115,000 volumes.

The State College of Agriculture, at Kingston Hill, opened for the winter term with 88 students in the regular and special courses, of whom 10 were natives of other States, and 6 natives of Cuba, 1 of Porto Rico, and 1 of Costa Rica. In addition to these students there were in December 30 applicants for admission to the special poultry course. During the year there were between 40 and 50 special students in agriculture, and 90 in engineering. In January, 1901, the college suffered a loss of about \$3,500 by the burning of its stable, on which there was no insurance. The student's fire brigade rendered valuable service in saving other college buildings.

At the State Home and School, where regular quarters are provided for 125 children, more than that number require the care of the institution, and the growing demand for enlargement of its facilities is receiving official recognition by the erection of a new double cottage. The average number in the home for the year was 143.

At the Institute for the Deaf the average number of pupils was 67.

Charities and Corrections. The new buildings for the relief of the poor, the State Hospital for the Insane, and the new building with a seating capacity for 100 patients, a new building for cooking and dining, a new boiler-house, and a ward building, were completed.

The number of soldiers and sailors in the quarters of the Soldiers' Home, at Barrington, was 185. The average number of patients in the year was the largest in the history of the home, and the quarters were practically full. The number of persons aided during the year from the relief fund of \$12,000 was more than 100.

At the sixth annual meeting of the Association of the Overseers of the Poor for the State there was a large attendance and excellent work for the year was reported. The attention of the association was especially given to the subject of more equitable settlement laws, and a committee was appointed to bring this question before the Legislature.

A report was made at the annual meeting of the Rhode Island Society for the Prevention of Cruelty to Children, surveying and summarizing its work for twenty years. The statement for 1901 showed that 291 new cases had been dealt with in the year, involving 578 children.

Militia.—Continued improvement in the brigade of militia is officially noted, and at the last summer encampment the attendance was larger than ever. Increased interest in rifle-practise was shown by the attendance of 837 at the range, the number of men qualified being 735, the largest in the history of the State militia.

Banks.—For the year ending June 29, 1901, returns were filed by 34 savings banks and institutions, 9 of which were in process of liquidation. The aggregate resources were \$78,529,180.94, an increase of \$15,690.72 since Nov. 20, 1900. The amount of deposits was \$74,390,794.86, a decrease of \$455,964.44 from that reported in 1900. Statements were filed by 11 trust companies, 2 of which were in liquidation. Their aggregate capital stock was \$4,121,398.47, an increase of about \$13,000 over the amount reported in 1900. Their deposits in "participation account" were \$19,789,760.38, an increase from Nov. 20, 1900, of \$2,944,907.50. Since the "participation account" of these companies is essentially a savings account, the increase here more than offsets the decrease of deposits in the savings-banks.

Railroads.—The capital stock of the steam railroads operated in Rhode Island is \$105,582,475; funded debt, \$69,231,517.77; floating debt, \$8,434,889.69; total indebtedness, \$77,726,407.46; total receipts, \$43,676,907.85; total expenditures, \$37,033,884.79; net earnings, \$6,643,023.06; miles of road in the State, 209+; miles of single track, 437+.

The capital stock of the electric roads is \$16,972,000; funded debt, \$5,719,700; floating debt, \$785,119.80; total indebtedness, \$6,504,819.80; total receipts, \$3,065,491.89; expenditures, \$2,286,483.78; net earnings, \$779,008.11; miles of road in the State, 252+; miles of single track, 316.

Judicial Decisions.—A statute relating to action to be taken when a pauper is not properly cared for by the town in which he resides, which has stood unquestioned since 1857, has been declared unconstitutional by the Appellate Division of the Supreme Court.

An opinion of the Supreme Court was rendered in May to the Governor which affirmed the constitutionality of the legislative act creating the Newport Board of Police Commissioners, and declared it to be a State board. The decision bore upon a difference of opinion and of action in the



CHARLES DEAN KIMBALL,
GOVERNOR OF RHODE ISLAND.

premises between the Governor and the Attorney-General, the Governor being sustained by the court.

Industries.—In October the Director of the Census issued a bulletin of Rhode Island manufactures from which this appears to be the most distinctively manufacturing State in the Union, standing fourth in textiles and, although smallest in area, fifteenth in general manufacturing. The capital invested in manufacturing and mechanical industries in 1900 was \$183,784,587, exclusive of the capital stock of incorporations. The gross value of products is returned at \$184,074,378, to produce which involved an outlay of \$5,552,189 for salaries of officials, clerks, etc., \$41,114,084 for wages, \$12,199,283 for miscellaneous expenses, including rent, taxes, etc., and \$96,392,720 for materials used, mill supplies, freight, and fuel.

In their latest report the Factory Inspectors say: "We have during the year ending Dec. 31, 1901, inspected 617 establishments, a net increase over the number reported last year of 22. The number of employees found in the various establishments was divided as follows: Males of sixteen years of age and over, 47,304; females of sixteen years of age and over, 34,192; total, 81,496. Males under sixteen years of age, 2,732; females under sixteen years of age, 2,336; whole number of children, 5,068. Total number employed, 86,564."

The value of the 5,498 farms in Rhode Island, according to a bulletin of the Census Bureau, was estimated to be \$23,125,260 in 1900. Of this amount \$9,706,490 represents the value of buildings, and \$13,421,770 the value of land and improvements. For the State the average value of land was \$29.46 an acre.

The revenue to the State in rents from the lands leased for the raising of oysters is \$25,691.25 for the year. In 1901 additional lands to the number of 1,858 acres were leased.

The New State-House.—In the new State-House the Legislature convened on New Year's Day, 1901, from which dates the public occupancy of the "Marble Palace." Grand as it is in design and beautiful in embellishment, to the throngs that gathered for the opening ceremonies there was no less to gratify the practical than the esthetic sense, for the perfect adaptation of the building to its uses was manifest. The formal exercises were simple and impressive.

Legislative Session.—Among the enactments of the Legislature in 1901 were these:

An amendment to the caucus law.

Providing that the trustees of the Rhode Island Normal School may admit to the classes of said school persons not intending to teach in the public schools of the State, upon payment of tuition fees.

Amending the laws relating to the State Library, and annually appropriating \$800 for the purchase of books.

Changing the laws relating to registration of voters.

Designating June 6 as "Nathanael Greene Memorial Day," in response to the request of the societies of the Sons and Daughters of the American Revolution.

To protect the public morals by prohibiting schemes and devices in the nature of lotteries.

Providing for a police commission for Providence.

Providing, in pursuance of a constitutional amendment, that no person shall vote in the election of the city council of any city, or on any proposition to impose a tax, or for the expenditure of money in any town or city, unless he shall, within the year next preceding, have paid a tax

upon his property therein valued at not less than \$134.

Limiting the liability of stockholders and officers of manufacturing corporations, for the debts or obligations of such companies, to the shares of such members paid up to the par value thereof, and repealing the law requiring the filing of annual returns as to the value of property and the amount of debts and liabilities.

Revising the law relating to the use of voting-machines, with a view to improve and extend this method of voting.

Making it a misdemeanor to distribute "trading-stamps," as in stores, to attract custom.

Creating a commission, each member of which must be a cyclist, for constructing and maintaining side-paths.

Providing that the United States flag shall be displayed over the public schools during school hours.

March 29 the Legislature adjourned until after the November election, when it reassembled and held a short session.

By the death of Gov. William Gregory, Dec. 16, 1901, an unusual sorrow was brought upon the State, for no Governor had died in office since 1805. He had been Governor since May, 1900, and had been elected to serve until January, 1903. Lieut.-Gov. Kimball served as acting Governor until January, when he qualified as Governor for the new term.

Providence.—The bank clearings of this city for 1901 were the largest in its history, reaching a total of \$354,384,000, as against \$326,299,700 in 1900. All the great industries were in good condition at the end of the year. The total amount spent during the year for new buildings was \$4,739,720. The number of building permits granted was 1,302, or nearly 200 more than in 1900. The annual report of the school committee shows that the school census has recently increased more rapidly than that of the general population, and that the average attendance in the schools has increased much more rapidly than even the school population. For the last decade of the nineteenth century the increase of school population was 36.1 per cent., while the increase of average attendance was 54.6 per cent.

Political.—At the Democratic State Convention, at Providence, Oct. 15, these candidates were nominated: For Governor, L. F. C. Garvin; Lieutenant-Governor, A. R. Archambault; Secretary of State, Frank E. Fitzsimmons; Treasurer, Clark Potter; Attorney-General, D. J. Holland.

The platform inveighed against the existing State Government and the "pocket-borough system" of representation in the General Assembly, and denounced the purchase of favor "from the boss who controls the State Legislature," by "individuals and corporations seeking public franchises and privileges." It declared: "This control of the State Government has been made more secure by the enactment of election and caucus laws which have all but incorporated the machine as the legally authorized manager of the State Government." It charged the existing State Government with waste of public money. The first step toward reform was declared to be the adoption of a new Constitution, providing for a new system of legislative representation, greater powers for the Governor, limitation of the power of the General Assembly, and amendment of the Constitution by constitutional convention.

The Republican State Convention met at Providence Oct. 16 and made these nominations: For Governor, William Gregory; Lieutenant-Governor, C. D. Kimball; Secretary of State, C. P. Lin-

[illegible]

The cash balance at the close of the year was \$44,720. Among the payments made during the year were: salaries, \$301,592.98; cost of printing, \$6,000; interest on bonds, Colored College, \$27,000; interest on bonds, State House, \$41,869.68; purchase of land, \$1,000; school fund, \$100,000; expositions, \$1,000; interest on notes of Governor and Treasurer, \$1,000; State-House contract, \$123,164.00; interest on State-House, \$15,000; printing, \$6,000; interest on commissioners sinking-fund, \$41,273.80; interest on sinking-fund, \$102,270; investment, sinking-fund, \$90,760.28; monument at Chickamauga, \$4,620.08; dispensary, account proper, \$2,005,297.45; transferred to school fund, \$100,000; interest on the public debt, \$270,643.79.

Valuations.—The taxable property, as made up for 1901, amounted to \$189,333,107, of which \$103,258,440 was real estate, \$59,030,424 personal property, and \$27,044,243 railroad property. The net increase over the valuations of 1900 is \$9,618,577. There were decreases in only three items in the schedule—value of credits, value of bonds and stocks, and 50 per cent. penalty—amounting in all to \$833,075.

Education.—The enrolment of white children in the public schools in 1901 was 127,230, and the average attendance 94,548. There were 157,976 negro children enrolled, and their average attendance was 113,566. The average length of the schools for whites was 21.17 weeks; of those for negroes, 14.12 weeks. The average annual salary of white teachers was \$188.91; of negro teachers \$80.30. The total expenditure for the year for white schools was \$726,825.44; for negro schools, \$211,287.56.

At Winthrop College 297 pupils were enrolled in the normal department at the close of the year, an increase of 120 in two years. A new dormitory has been built. The entire appropriation from the Legislature this year was \$69,672.

The South Carolina College has just entered upon its second century. Its number of students is increasing; while there were 162 four years ago, there were 227 at the last session of 1901. The Legislature appropriated \$42,557 to the college.

The Colored Normal College received for its support \$8,000 from the Legislature. The total disbursements for the year ending in June were \$32,350.

The annual appropriation to the State Military Academy was raised this year to \$25,000, with a view of reducing the charges to the cadets from \$300 to \$250 per annum. This reduction was made by the Board of Visitors.

For the Agricultural College a new dormitory has been built in order to make room for the increasing number of applicants. The college property was considerably damaged by the breaking of dikes during the floods of December.

Charities and Corrections.—The Insane Asylum received 459 patients in 1901; the whole number was 1,493; the daily average, 1,068; the total cost, \$135,316; the per capita, for support, \$103. The institution has just entered the eightieth year of its existence.

The fifty-third annual report of the Institution for the Deaf and Blind shows an average attendance for the year of 163. The cost of maintenance was \$21,227.92; the per capita cost, \$130.23. A building has been completed for the colored pupils, and a new school-building is in process of erection; for this the Legislature appropriated \$20,000.

The whole number of convicts in the Peniten-

tiary at the beginning of the year was 795; 243 were received during the year; 178 were discharged and 26 pardoned, 16 escaped, 27 died, 1 was killed while trying to escape, and 2 were accidentally killed, leaving 788. The receipts were \$74,756.61; the current expenses, \$47,726.46; the cost of permanent improvements, \$15,243.13.

Products and Industries.—The Census Bureau's preliminary report on the manufactures of South Carolina shows 3,762 establishments with products in 1900 valued at \$58,748,731 and total capital of \$67,356,465. Other figures are: Average number of wage-earners; 48,135; wages, \$9,455,900; miscellaneous expenses, \$3,111,587; and cost of materials used, \$34,027,795. The capital shows an increase of 130 per cent. over 1890 and value of products an increase of 84 per cent. The cost of materials increased 80 per cent. The city of Charleston, separately reported, has a total of \$12,473,187 in capital invested and \$9,562,387 in value of products. These are increases of 70 and 6 per cent. respectively. Charleston has 364 establishments, 5,027 wage-earners, getting \$1,489,966 in wages.

Charters were granted to 31 new cotton-mills in 1900, with an aggregate capital of \$4,850,000.

During the year 14 established mills increased their capital—the aggregate being \$2,945,000—making the total investment in mills that year \$7,795,000.

The principal investments during the year were in small industries and manufacturing enterprises, new railroads and land-investment companies.

The production of gold in 1901 was \$120,900 in value; of silver, 316 fine ounces.

The records of the phosphate business for the year ending Nov. 30 show that 82,656 tons were mined, against 119,208 in 1900. The number of tons shipped was 90,740, an increase, as but 78,692 tons were shipped in 1900; the royalties to the State amounted in 1901 to \$23,108; in 1900 to \$24,937.47.

The census report credits the State with the production in 1900 of 190,095 barrels of crude turpentine, of \$787,656 value.

The estimated production to the acre of lint cotton in 1901-1902 was 141 pounds. The total cotton-crop of 1900-1901 was given as 780,782 bales as made up from reports to the statistician, but as equalized the figures appeared 911,000. The estimates for 1901-1902 vary, but 820,328 bales is given as the final estimate. Secretary Hester places the amount of consumption in the cotton-mills of the State for 1900-1901 at 510,486 bales, an increase of 13,340 bales.

Militia.—The share of the State in the Government militia appropriation of \$1,000,000 is \$19,117.64. In May the State monument at Chickamauga was unveiled. The Adjutant-General formed a provisional regiment of nine companies from the National Guard to attend the exercises.

Lawlessness.—In his message to the Legislature of 1902, the Governor says: "There have been two lynchings in the State during the past year, both of which are to be regretted and would have been prevented if possible; but so long as fiends in human form continue to commit outrages upon our women, they may expect swift and summary justice, and I doubt if emergency courts or any other remedy will stop the administration of such justice when it is known the right fiend is found. The only way to stop the punishment is to stop the crime."

The Dispensary.—The Governor says in his message that the dispensary method of dealing with the liquor problem is growing in favor with the public; and that the management of the busi-

ness in 1901 was businesslike and satisfactory. The report of the directors shows that the cost of liquors, wines, and beer, etc., purchased in the year amounted to \$1,617,973.42, and that the gross sales amounted to \$2,228,681.21, exclusive of sales of fresh beer by beer dispensary. The net profits (to the State) for amount of the school funds is \$120,962.25. The net profits that have been assigned to the counties and towns, divided equally, are \$424,285.87.

The Charleston Exposition.—Of the exposition, which opened at Charleston, Dec. 1, the Governor says in his message to the Legislature of 1902: "At your last session you wisely made an appropriation of \$50,000 for the erection of a State building at the South Carolina Interstate and West Indian Exposition. The State building is perhaps the handsomest on the exposition grounds. The collection of the exhibits, which are entirely creditable, was largely under the personal supervision of Superintendent Love, who worked in conjunction with the authorities of the Exposition Company. The exposition is a decided success, and reflects credit upon the State and upon the South."

Henry Timrod.—A monument to the poet Timrod was unveiled May 1 in Washington Square, Charleston. It consists of a bronze bust in heroic size and panels by Valentine, on a granite pedestal and base. The fund was raised by the sale of Timrod's poems.

Legislative Session.—The annual session of the Legislature extended from Jan. 8 to Feb. 16. There were no Republicans in the Senate, and there was but one in the House. W. F. Stevenson was Speaker of the House. Benjamin R. Tillman was reelected to the United States Senate. The Legislature passed 155 laws and 19 resolutions. There was little opposition to the exposition bill and the appropriation of \$50,000 for a State building.

Two important taxation bills were passed. The first sends to the Board of Equalization all the returns of textile, cotton-seed oil, and fertilizer factories, and canals furnishing power for hire. The second bill declares the stock of textile manufacturing companies to be real estate as regards its legal status, and exempts the holder from taxation when the corporation is taxed. This act was attacked on the ground that it interferes with the settled law of South Carolina declaring all shares of stock personal property. Its object is to induce foreign capital to invest in the State because such investments will not be taxable at the homes of the owners.

Several measures affecting railroad companies were passed. One provides that consolidation of railroads is to be subject to the limitations of the Constitution as to parallel and competing lines. On consolidation a charter is to be issued to the new company. The Railroad Commissioners are to fix rates of storage to be charged by railroad companies in the State, to prescribe regulations for charging the same, to prescribe how suit shall be brought for overcharges, to fix the measure of recovery, and to regulate the freight charges on melons.

The act relating to the running of trains on Sunday was revised so as to provide for the transportation of passengers to and from religious services. Street-railway employees are to have the same remedies for personal injury as employees of other railroads. An amendment to the law on damages permits punitive or exemplary damages where death has been caused by recklessness, wilfulness, or malice.

Other acts affecting corporations were those

regulating the issue of preferred stock, providing for the election of trustees or directors of corporations by cumulative voting, providing for the extension and renewal of charters of corporations chartered by special act before the charters have expired, and the act allowing compensatory damages against telegraph companies for mental anguish caused by negligence in transmitting messages.

It was made illegal to pay wages in orders, checks, or tokens payable otherwise than in lawful money, unless negotiable and redeemable at their face value. Bills were introduced to abolish or regulate child labor, but they were not passed. There is as yet no compulsory-education law.

The two constitutional amendments voted upon in 1900 were ratified. One empowers the Legislature to provide for the condemnation of lands for drainage, and the assessment of lands drained. The other removes the limitation of bonded indebtedness from certain counties as regards bonds for water-supply and sewerage.

The office of State geologist was created. A board of entomology was established in order to provide for the inspection of fruit-trees, vineyards, and vegetable farms.

An act was passed introducing the system of struck juries in the trial of civil cases. Under this system a list of 24 jurors is presented to the attorneys on each side, who alternately strike off 6 until a jury of 12 remains.

Appropriations for new buildings were made to the Institution for the Deaf, Dumb, and Blind, to Winthrop College, and to South Carolina College.

It was made unlawful to sell, transport for sale or carry, whether concealed or not, a pistol less than 20 inches long and 3 pounds in weight.

The appropriations amounted to \$1,130,534. The State levy was left at 5 mills.

The anti-free-pass law was repealed by an act which the Governor vetoed.

Other measures adopted were:

Granting certain lands in Charleston County for a naval station to the city council of Charleston.

Ceding to the United States certain lands in Moultrieville, Sullivan's island.

Consenting to the acquisition by the United States of such lands in the State as may be needed for the establishment of a national forest reserve.

Permitting the owner or mortgagee of lands sold for taxes to redeem them within six months by paying taxes, penalties, and costs, and 8 per cent. interest.

Making it a misdemeanor to sell stock affected with contagious diseases.

To provide for the establishment of chain-gangs in incorporated cities, towns, and villages in counties that have no county chain-gangs.

To set apart for Confederate souvenirs and relies a room on the third floor in the State Capitol, and to give the Daughters of the Confederacy control of it.

To increase the pension fund to \$150,000.

A joint resolution to provide for the keeping and preservation of the flag and records of the Palmetto Regiment, and also of the Jackson vase.

To validate and confirm the original bonds and all renewals thereof, known as railroad bonds, amounting to \$75,000, issued by Laurens County, pursuant to an election held in that county on June 7, 1881.

To require the superintendent of the State Penitentiary to hire convicts to the counties to work on the public highways, and not to hire them out for farming.

Amending the laws governing the practice of physicians.

Extending the powers of the State Board of Health, providing that the board should not enforce compulsory vaccination.

The Quarrel of the Senators.—A notable political event of the year was the quarrel of a joint resignation by the two United States Senators, Senator Tillman and Senator Mc Laurin. Senator Tillman was elected to his term in 1890, and was re-elected in the State primaries in 1900 to succeed him. He was accordingly reelected by the Legislature in 1900. Senator Mc Laurin, whose term will expire in 1901, had drawn upon himself the condemnation of a large section of his party in the State by speaking and voting in the Senate in favor of Republican administration measures. In the Legislature resolutions of censure upon his course were offered, but they were not passed. By a vote of 58 to 44 the House tabled a resolution of condemnation, the preamble of which set forth that the Senator had "manifested opinions at variance with those of the Democratic party of South Carolina through his vote favoring the ratification of the treaty of Paris, whereby the Republican administration at Washington was enabled to pursue an infamous war at a first cost of \$20,000,000, to which many hundreds of millions of dollars have been added, together with the loss of thousands of precious American lives, all with lamentable failure, the war in the Philippines being no nearer a conclusion to-day than when the first shot was fired; through his vote favoring an increase of the standing army to 100,000 men in a republic whose strength in the past and whose hope in the future, in times of trouble, have lain in her free-born citizens, loving their homes and firesides, who have never failed to defend the same, if need, with their blood and their lives; and through his speech in advocacy of the ship-subsidy bill, a most gigantic and monstrous plan to permit the huge shipping interests of the United States to plunder the public treasury, under the guise of legal authority—a bill introduced and managed on the floor of the United States Senate by that great friend of monopoly and the trusts, Mark Hanna, the embodiment of plutocracy, which to-day controls and shapes the policy of the Republican party, and conceived out of a desire to repay to those interests from the people's treasury the money contributed by them to the Republican campaign fund."

Some members who voted to table the resolution explained that they did so because they thought such a resolution should have no place in the Legislative proceedings, and their votes were not intended as an expression of their opinion on the merits of the case.

On May 25 the two Senators met in joint debate at Gaffney, Senator Mc Laurin advocating his theory of commercial democracy and Senator Tillman attacking it. He said that if Mc Laurin were not a Republican he ought to be, since he had supported and advocated Republican measures, and that the only proper thing for him to do was to resign and go before the people for their verdict on his course. Mc Laurin challenged Tillman to resign with him. This was agreed to, and the joint resignation was sent to the Governor, naming Sept. 15 as the time for the resignations to take effect. The understanding was that the Senators would speak through the State in October and November, and that a primary would then be held; that if Mc Laurin were successful he should fill out Tillman's term (till 1907), and if Tillman, he should be reelected. But the Governor refused to accept the resignations. He said, in part: "It was only last year

that our people had the excitement and turmoil incident to a campaign, and in another year we will be in the midst of further political strife. The people are entitled to one year of peace and freedom from political battles and bitterness. The indications are that a campaign such as would be precipitated by vacancies in these two exalted positions would be a very acrimonious one, and personal, rather than a discussion of issues, and from such a canvass our people should be spared."

Senator McLaurin then withdrew his resignation. Senator Tillman at first refused to do so, saying that the Governor had transcended his authority, and intimating that his action was in the interest of "would-be aspirants" who were not yet ready to go into a canvass for a seat in the Senate. The Governor, in his reply, said: "If you still wish to resign your commission, and will send to this office an unconditional resignation, I will exercise the authority and power vested in me by the people."

Senator Tillman then withdrew his resignation, protesting against the right of the Governor to reject it.

The State Democratic Executive Committee adopted a resolution, July 25, by a vote of 25 to 5, declaring that "Senator J. L. McLaurin, from the standpoint of honesty and self-respect, should tender his unqualified resignation immediately." In reply Senator McLaurin said, in part: "I hold my commission from the Democratic voters of South Carolina. I recognize no authority but theirs, take no orders from any source but them, and shall in due course appeal to them for judgment on my course as a Senator and my character as a man and a Democrat. I regard what you have done as merely expressing the malice and the fears of one individual—Senator B. R. Tillman. But for this always evil and indecent influence, ordinary respect for the proprieties would probably have prevented the four of you who are my declared competitors for the seat I now have the honor to occupy, from attempting to use the power given to you by your party to remove a rival from your path. I shall ask the people to say whether they prefer the Senator who has tried to retain for South Carolina the honor and dignity won by a long line of illustrious sons and glorious deeds, or the Senator who has postured as buffoon and bully, and who proclaimed on the floor of the Senate that he represented a constituency of ballot-box stuffers and murderers who wanted their share of the stealage."

The matter came up in the United States Senate in December, when Senator McLaurin arose to a question of personal privilege, and proceeded to explain what he said was a conspiracy to discredit him in his own State for acts and views that did not meet the approval of certain Democratic leaders. From Mr. Tillman this brought forth a review of the whole controversy, in the course of which Mr. Hoar took occasion to express the opinion that it was very doubtful whether both the South Carolina seats in the Senate were not in reality vacant. He contended that when the resignations were offered last spring to the Governor they could not thereafter be withdrawn, but that they became immediately operative. The climax came when Senator Tillman challenged Mr. McLaurin to join with him in preparing their joint resignations and handing them to the presiding officer of the Senate. This challenge Mr. McLaurin did not accept.

SOUTH DAKOTA, a Western State, admitted to the Union Nov. 3, 1889; area, 77,650

square miles. The population, according to each decennial census since admission, was 328,808 in 1890 and 401,570 in 1900. Capital, Pierre.

Government.—The following were the State officers in 1901: Governor, Charles N. Herreid; Lieutenant-Governor, George W. Snow; Secretary of State, O. C. Berg; Auditor, J. D. Reeves; Treasurer, John Schamber; Attorney-General, John L. Pyle; Superintendent of Public Instruction, E. E. Collins; Commissioner of School and Public Lands, David Eastman; Adjutant-General, S. J. Conklin; Insurance Commissioner, H. C. Shober; Public Examiner, Henry M. Cooper; Oil Inspector, Emil Brauch; Railroad Commission, Messrs. Kirkpatrick, Smith, and Le Cocq; President State Board of Agriculture, John Armstrong; Secretary Historical Society, Doane Robinson; Veterinarian, Dr. Foster; Chief Justice of the Supreme Court, Dighton Corson; Associate Justices, Dick Haney, H. G. Fuller; Clerk, Frank Crane. All are Republicans.

State officers are elected for terms of two years in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years.

Population.—Of the 78 counties in South Dakota in 1890, 15 have since been annexed to other counties, leaving the State divided into 63 counties. All but 16 increased in population during the decade. The percentage of urban population is 7.2.

Finances.—The total indebtedness of the State, July 1, 1901, was \$863,300. This was composed of \$370,800 of coupon bonds; \$242,500 of registered bonds; and \$250,000 of revenue warrants. The cash on hand in the treasury was \$764,888.46.

The highest interest paid by the State is $4\frac{1}{2}$ per cent., on some of the bonds which have come down as a debt from the old Territory, most of the bonded debt being for $3\frac{1}{2}$ and 4 per cent.

Prices received for school lands this year averaged \$14 an acre, about 25 per cent. higher than in 1900. The amount now in the school fund is about \$4,000,000, which is all loaned at 6 per cent. interest.

The taxes due the State and unpaid amounted in June, 1900, to \$308,207.54.

Valuations.—The assessment figures this year show a total valuation of \$173,206,733, an increase of \$951,648 over the assessment returns of last year on all classes of property. Of this increase, real estate shows \$1,280,339; railroads, \$174,631; telephone companies, \$9,410. Town lots show a reduction of \$398,636, and personal property of \$113,496.

Education.—There are 119,579 children of school age, and the seating capacity of the school-houses is 110,743. The cost of maintaining the schools was \$1,130,914.37, and in addition \$158,701.41 was paid for the redemption of bonds, and for the interest \$48,015.41. The total indebtedness of the school districts of the State, including cities, is \$1,231,561.57, and the net decrease of indebtedness in the year was \$112,995.55; 5,516 persons were enrolled in teachers' institutes last year. The cost of conducting the institutes was \$13,293.92.

The Legislature appropriated \$40,000 for a new science hall at the university. The enrolment in October was 310, an increase of 40 over the highest enrolment heretofore.

Seventy students were in attendance at the School of Mines in October.

New buildings have been in process of erection at the Agricultural College and the Asylum for the Blind.

Charities and Corrections.—Two members of the Board of Charities and Corrections resigned in December, 1900, and Gov. Lee appointed H. P. Smith and F. H. Bacon, Populists, to the vacancies. The State Supreme Court had decided in the case of Finerud, member of the Board of Regents, that an appointment made by the Governor during a recess to fill a vacancy was for the full term of six years and did not require confirmation by the Senate. Gov. Herreid, however, appointed Messrs. Lavin and Rice in place of Gov. Lee's appointees, but the court decided in favor of Smith and Bacon, holding that the Governor could fill a vacancy for the full term, though the Senate may have failed to confirm. The Legislature then passed a law amending the section on the Board of Charities and Corrections providing that "when an appointment has heretofore been made to fill a vacancy or shall hereafter be made, such appointee shall hold only until the close of the regular legislative session immediately following his appointment, at which time the term of office of such appointee shall expire." An emergency was declared to exist, and the act to be in force immediately. This limited the terms of Bacon and Smith to March 8, and the Governor reappointed Lavin and Rice. The case came again before the Supreme Court, hinging on the right of the Legislature to pass emergency measures and omit the referendum. The court held that the Legislature has such right, and that Bacon and Smith were holding the offices without authority of law.

The reason given for the declaration that an emergency existed was the result of investigation by a legislative committee of the management of State institutions, which appeared to be, at the least, unbusinesslike and wasteful. Later in the year a change was made in the management of the Reform School, and it was alleged that an investigation of the former management showed gross irregularities.

The number of inmates of the Penitentiary was 146 in January. The capacity of the part in use is 144.

The average number at the State Soldiers' Home was 194.

A Government asylum for insane Indians has been opened at Canton, with accommodations for 75 patients.

Insurance.—Reports of the Insurance Department show \$28,944,734 of fire risks written or renewed in 1900-1901. The premiums received amounted to \$460,153, against \$444,125 for 1899-1900. The losses paid were far in excess of those of 1899-1900, being a total of \$413,484.

Industries and Products.—The preliminary census bulletin on manufactures shows an increase in all branches in the State. The number of establishments has risen in the decade from 499 in 1890 to 1,638 in 1900; the capital invested from \$3,207,796 to \$7,277,895; the number of wage-earners from 2,011 to 6,121; the wages from \$832,692 to \$1,511,289; the miscellaneous expenses from \$268,014 to \$479,861; the cost of material from \$3,523,840 to \$7,827,110; the value of the product, including custom work and repairing, from \$5,692,748 to \$12,229,489.

The production of the State in 1901, as estimated by the secretary of the State Historical Society, amounts to \$113,652,750, itemized as follows: Wheat, 39,000,000 bushels, value \$20,000,000; corn, 32,725,000 bushels, value \$14,726,250; oats, 17,670,000 bushels, value \$5,831,100; barley, 3,432,000 bushels, value \$1,544,400; rye, 90,000 bushels, value \$40,000; flax, 2,780,000 bushels, value \$3,861,000; potatoes, 2,200,000 bushels,

value \$1,620,000; hogs, 1,200,000, value \$2,500,000; live stock, \$25,000,000; and other products, \$8,509,000; orchards, 1,000,000; wool and hides, \$2,000,000.

The preliminary census of the United States Mint gives South Dakota a value of \$1,601,800 in value, and the value of the gold and silver in the State is \$1,601,800.

Petroleum has been discovered in quantities sufficient to warrant the leasing of a large area of land by a corporation to sink wells.

Railroads.—In August a decision was rendered in the United States court against the Interstate Commerce Commission in the matter of rates. The judge declared that the schedule of maximum rates and charges fixed by the State Railroad Commissioners is in violation of the Constitution of the United States, in that it would operate to confiscate the property of the railroad companies without due process of law or without just compensation. The commissioners, therefore, are perpetually enjoined from putting into effect the maximum rate schedule. The case has been in the courts since 1897 and was once decided in favor of the commissioners.

Caves.—Commissioner Hermann, of the General Land Office, has instructed the special agent of the Interior Department to reopen "the Wind Cave," in the Black Hills, to inspection by the public. The cave belongs to the Federal Government and comprises about 1,000 acres. It was withdrawn by order of Jan. 16, 1900.

Wind Cave is so called on account of the strong rushing current of air through the entrance. Several hundred feet below the surface a level is reached from which miles of arched avenues radiate in every direction, embracing a succession of imposing chambers. The ceilings are pendant with gems of stalactite formation, while around the walls in niches carved out by the action of the water are specimens of deftly wrought statuary, fragile foliage, chaste columns of the most elaborate architecture, and forms resembling birds and animals.

The Black Hills have two other caves that are coming to the notice of tourists. Crystal Cave is a short distance southeast of Deadwood. More than 50 miles of passageways have been opened up, there being more than 200 chambers.

About 16 miles west of Custer a new cave has been discovered, which has promise of becoming a rival of Wind and Crystal Caves.

Legislative Session.—The session of the Legislature began Jan. 8 and ended March 8. Politically the two houses were divided as follows: Republicans in the Senate, 39; in the House, 78; fusionists in the Senate, 6; in the House, 9.

J. M. Lawson was President *pro tem.* of the Senate, and A. G. Somers was Speaker of the House.

Robert J. Gamble was elected United States Senator to succeed Richard F. Pettigrew, by a vote of 113 to 13 for Senator Pettigrew, who was the candidate of the fusionists.

The Legislature passed 188 laws and 21 resolutions.

Some changes were made in the election laws.

Three constitutional amendments were proposed, and are to be submitted to vote in November, 1900. The first is to limit public debts to 5 per cent. on valuation of taxable property, except for purposes of providing water and sewerage, or in cities of 8,000 for providing street-railways and lighting. The second is to change the rate of interest on educational funds from 6 to 5 per cent. The third is to provide that a county-seat may be changed on a two-thirds vote at a gen-

eral election; if the change is needed to bring it near a railroad station, on three-fifths vote.

It was provided that boards of education may call elections and submit to voters propositions to issue bonds for educational purposes. The moneys of the fish fund go to the common-school fund, as also fines for violation of State laws. School attendance for twelve weeks is made compulsory.

Library bills were passed—one providing for the establishment of libraries in cities on petition of a majority of the legal voters, and one to provide a fund for libraries in country schools.

Provision was made for the organization of a State historical society, and an appropriation was made for a geological survey.

A bill was passed providing for a commission of 3 to revise and codify the laws, the Governor to appoint the commission, and their work to be submitted to the Legislature of 1903. The act carried an appropriation of \$14,000. The Governor appointed Bartlett Tripp, Gideon C. Moody, and James D. Brown.

Several measures were passed affecting assessment and taxation, looking to increase of the revenue and collection of delinquent taxes. County treasurers are authorized to employ men on commission to search out property that is escaping taxation, a measure similar to the so-called "tax-ferret" law of Iowa. It was provided that non-resident owners of live stock must pay, in addition to other taxes, 50 cents a month for each head of stock feeding on the State ranges.

State officers are required to pay into the treasury all moneys received as fees or perquisites; and moneys received by State institutions also are to be paid into the treasury for their use.

The office of food and dairy commissioner was created.

A change was made in the liquor-license law, one of the provisions of which is to prevent druggists from handling liquor for any purpose, placing the sale entirely with licensed saloon-keepers.

An act was passed for the reorganization of the State militia.

The wolf-bounty law was entirely changed. The total amount that can be used for that purpose in any one year is \$5,000.

The Governor may remove State officers not liable to impeachment.

The game-laws were amended. Provisions were made for the preservation of buffalo, elk, deer, and mountain-sheep. The Governor is authorized to appoint county game-wardens from Nov. 1 to Jan. 1. It is made unlawful to hunt antelope before Jan. 1, 1911.

The salaries of the Governor and the Supreme Court judges were raised to \$3,000; circuit judges are to receive \$2,500, unless the circuit is less than 5,000 square miles, when the salary is \$2,000.

Other measures were:

Making it a misdemeanor to desecrate the United States flag or use it for advertising.

Changing the name of the Industrial School and Institute of Technology, at Aberdeen, to Normal and Industrial School.

Prohibiting the employment of a child between eight and fourteen years of age without a certificate that he has attended school at least twelve weeks.

Providing for school instruction on the humane treatment of animals, making experiments on live animals unlawful.

Declaring gambling places nuisances.

Providing that cities, towns, and villages may suppress the illegal sale of liquors.

Making the punishment for perjury on trial of

indictment or information for felony, imprisonment one to twenty years, instead of, as formerly, not under ten years.

Ceding to the United States jurisdiction over offenses committed on Indian reservations.

Providing for guardianship of dependent, neglected, and abused children by societies incorporated for their care.

Making it a misdemeanor to make, sell, give away, or use air-guns or cannon firecrackers.

United States Senator.—Senator James H. Kyle died at his home, in Aberdeen, July 1. On July 11 the Governor appointed Alfred B. Kittredge to fill out the term, which ends in 1903.

TENNESSEE, a Southern State, admitted to the Union, June 1, 1796; area, 42,050 square miles. The population, according to each decennial census since admission, was 105,602 in 1800; 261,727 in 1810; 422,771 in 1820; 681,904 in 1830; 829,210 in 1840; 1,002,717 in 1850; 1,109,801 in 1860; 1,258,520 in 1870; 1,542,369 in 1880; 1,767,518 in 1890; and 2,020,616 in 1900. Capital, Nashville.

Government.—The following were the State officers in 1901: Governor, Benton McMillin; Secretary of State, John W. Morton; Treasurer, Beau E. Folk; Comptroller, Theodore F. King; Superintendent of Agriculture, Thomas H. Paine; Superintendent of Instruction, Morgan C. Fitzpatrick; Adjutant-General, W. M. Brandon; Attorney-General, George W. Pickle; Commissioner of Labor, Robert A. Shiflett; Live Stock Commissioner, W. H. Dunn; Factory Inspector, Martin J. Noonan; Railroad Commissioners, N. W. Baptist, J. N. McKenzie, and Thomas L. Williams; Prison Commissioners, W. M. Nixon, W. A. Carter, and John S. Denton, who succeeded A. J. McWhirter; Librarian, Jennie Lauderdale; Chief Justice of the Supreme Court, David L. Snodgrass; Associate Justices, W. C. Caldwell, John S. Wilkes, W. K. McAllister, W. D. Beard; Clerk, A. W. McMillin; Justices of the Court of Chancery Appeals, M. M. Neil, S. F. Wilson, R. M. Barton, Jr.; Clerk, James Turney. All are Democrats.

State elections are held biennially in November of the even-numbered years. The Legislature meets biennially in January of the odd-numbered years.

Population.—The population in 1900 consisted of 1,021,224 males and 999,392 females. Of the total 2,002,870 were of American birth and only 17,746 foreign born. The total white population was 1,540,186, of whom 1,522,600 were native born, and of these latter 1,481,636 were born of native and 40,964 of foreign parents. There were 782,702 white males and 757,484 white females. The foreign white population consisted of 10,291 males and 7,295 females. The total colored population was 480,430, of whom 480,243 were negroes or partly of negro descent, comprising 238,388 males and 241,855 females; 75 were Chinese, including 2 females; 4 were Japanese; and 108 were Indians, of whom 57 were males and 51 females. The aggregate number of persons of school age, including all between the ages of five and twenty years, was 780,421, of whom 298,169 were native white males, 289,804 native white females, 754 foreign white males, 724 foreign white females, 95,006 colored males, and 95,964 colored females. The male population of militia age was 384,249, comprising 290,313 native whites, 4,408 foreign-born whites, 89,452 negroes, and 86 other colored. The number of males of voting age was 487,380, of whom 477,739 were native born, the total comprising 365,537 native whites, 9,509 foreign whites, and 112,334 colored. Of the native white male population of voting age born of native parents

14.5 per cent. were illiterate; of native whites born of foreign parents, 3.7 per cent.; of foreign whites, 7.7 per cent.; of colored males of voting age, 47.6 per cent. Of the foreign-born males of voting age 59.8 per cent. were naturalized, 2.9 per cent. had filed their first naturalization papers, 13.1 per cent. were reported as aliens, and of 24.2 per cent. no information was given. The number of deaths reported in Tennessee for 1900 was 30,572—15,334 among males and 15,218 among females, 21,029 among whites and 9,543 among colored, 20,257 among native and 511 among foreign whites.

Education.—The number of pupils enrolled in the public schools in 1901 was 488,655, of whom 385,006, or 79 per cent., were white, and 103,649, or 21 per cent., were colored. The average school term was a little less than five months. The number of teachers employed was 9,484, giving more than 50 pupils to each teacher, although 279 teachers had been added during the year. The average salary paid to teachers was \$28.60 a month, making the average cost per pupil 74 cents. The number of new schoolhouses erected during the year was 205. The money received for public schools was \$2,600,000, and the expenditures were \$1,800,000.

Forests.—There is a Forest Association for the purpose of preserving the forest wealth of the State. The present rate of depletion threatens to use up the most valuable timber in twenty years. The walnut has disappeared, and the cedar forests, once the finest in the world, can scarcely supply the local demand for fence-posts. There are about 500 sawmills, consuming 400,000,000 feet of timber per annum; 60,000,000 feet are needed for cross-ties on 3,000 miles of railroad, and 180,000 farms require 100,000,000 feet for fuel, fencing, and building. Including the area destroyed by fires in the mountainous districts, the forest area of 9,300 square miles is diminishing at the rate of 480 square miles a year. The United States Government, by the action of the State Legislature, is authorized to acquire land in Tennessee to be utilized in connection with a forest reserve.

Production.—The output of bituminous coal in 1900 was 3,904,048 tons. The production of pig iron was 362,190 tons; of charcoal iron, 3,119 tons. There were 114 coal-mines in 1901, an increase of 14 over the previous year; number of persons employed, 8,691. The value of coal produced was \$4,294,928 at the mines; coke produced, 494,438 tons, value \$1,186,655; iron ore, 378,376 tons of brown and 321,376 tons of red; copper ore, 116,000 tons; zinc blende, 3,968 tons; barytes, 16,605 tons; phosphate rock, 450,856 tons. The number of ovens was 1,923, of which 1,662 were in blast, 188 new ovens having been built in 1900. The corn acreage for 1900 was 2,849,894, producing 56,997,880 bushels, of the value of \$27,928,961; wheat acreage, 1,181,123, crop 11,696,088 bushels, value \$9,239,910; acreage under oats, 350,010, producing 5,810,166 bushels, value \$2,033,558. The cotton-crop in the season of 1901 was estimated at 275,000 bales.

Legislative Session.—The record of the Legislature, which closed its sessions on May 2, was marred by charges of corruption, especially in connection with two liquor bills which failed to pass, and which led to an investigation that proved that a fund had been raised among wholesale dealers, the purpose of which was explained to be the presentation of their case before the Legislature and the testing of the constitutionality of the measure in case of its enactment. After the failure of the first bill, the second one, more thorough and stringent, passed the lower

house, but was defeated in the Senate. A bill was passed concerning the regulation of street car charters, and by a vote of 19 to 10 the bill was passed.

A law to legalize the sale of liquor in small quantities went into operation.

A stock law requiring the fencing of lands on their own line was passed. The law imposing damages applies only to certain counties. A trespass law was passed for the benefit of farmers. A bill was passed providing that teachers in public schools should be of the same race as the pupils. The age of majority for women was raised from sixteen to eighteen years. An act penalizes insurance companies that refuse to pay claims by making them pay 25 per cent. additional in case their refusal is not upheld judicially. If a taxpayer fails to report notes or other evidences of debt to the assessor in order to escape taxation, he can not recover the debt through the courts until he has paid the tax and a penalty of 25 per cent. per annum additional.

Good Roads.—A Good-Roads Convention held at Jackson in June formed a permanent association and recommended State legislation to secure intelligent supervision by a Highway Commissioner, to provide adequate revenue, and to secure a permanent system of road construction and maintenance. The first annual meeting of the Tennessee Good-Roads Association was held at Nashville on Oct. 8. The value of good roads to Tennessee farmers for the transportation of produce to market is estimated at \$1.50 a year per acre, and they are furthermore a condition for the successful introduction of free rural postal delivery.

Confederate Reunion.—The annual convention of Confederate veterans was held in Memphis at the end of May. The commander was Gen. John B. Gordon, and 4,000 survivors of the Confederate army marched in the parade. The number of delegates present was 2,309, representing 1,359 camps. Gen. Gordon was reelected, and the annual convention for 1902 was appointed to be held in Dallas, Texas. Resolutions were adopted petitioning Congress to provide means for the care of Confederate dead in Northern cemeteries, asking that such dead be restored to their native States at the desire of memorial associations, and thanking Congress for providing for the reinterment of Confederate dead in the National Cemetery at Washington. It was resolved to erect monuments to the women of the South and to Jefferson Davis. The Memorial Committee, after the convention, proceeded to Richmond, Va., to make arrangements for laying the corner-stone of Battle Abbey, which is to be the great Confederate memorial. The Tennessee Legislature, before the meeting, passed acts increasing the State pension to disabled Confederate veterans from \$15 to \$25 a month, and granting an annual pension of \$100 to ex-Confederate soldiers over seventy years of age.

TEXAS, a Southern State, admitted to the Union Dec. 29, 1845; area, 265,780 square miles. The population, according to each decennial census since admission, was 212,592 in 1850; 604,215 in 1860; 818,759 in 1870; 1,591,749 in 1880; 2,235,523 in 1890; and 3,048,710 in 1900. Capital, Austin.

Government.—The following were the officers of the State for the year: Governor, Joseph D. Sayers; Lieutenant-Governor, J. N. Browning; Secretary of State, John G. Tod, appointed by the Governor; Treasurer, J. W. Robbins; Comptroller, R. M. Love; Superintendent of Public Instruction, Arthur Lefevre; Commissioner of Agriculture, Jefferson Johnson; Railroad Commissioner, L. J.

Storey; Adjutant-General, Thomas Seurry; Commissioner of the General Land Office, Charles Rogan; Attorney-General, C. K. Bell; Chief Justice of the Supreme Court, Reuben R. Gaines; Associate Justices, Thomas J. Brown and F. A. Williams; Clerk, Charles S. Morse—all Democrats.

The term of State officers is two years. They are elected on the Tuesday after the first Monday in November of the even-numbered years. The Legislature meets biennially on Jan. 2 of the odd-numbered years. The session may continue indefinitely, but the members receive \$5 per diem for the first sixty days, after that \$2 per diem. There are 31 Senators, elected for four years, and 128 members of the House of Assembly, elected for two years.

Population.—The population in 1900 was divided, as to sex, into 1,578,900 males and 1,469,810 females; as to nativity, into 2,869,353 of native and 179,357 of foreign birth; as to color, into 2,426,669 whites and 622,041 colored, the latter comprising 620,041 negroes, 836 Chinese, 13 Japanese, and 470 Indians. Of the native whites, 2,249,088 in number, 1,959,762 were born of native and 289,326 of foreign parents, and they comprised 1,166,760 males and 1,082,328 females, while the foreign-born whites, 177,581 in number, comprised 100,910 males and 76,671 females. The total white population consisted of 1,267,670 males and 1,158,999 females. The colored population consisted of 310,135 negro males, 310,587 negro females, 823 Chinese males, 13 Chinese females, 9 Japanese males, 4 Japanese females, 263 Indian males, and 207 Indian females, making the total number of colored males 311,230 and of colored females 310,811. The total number of persons of school age was 1,215,634, including all between five and twenty years of age, of whom 483,286 were white males, 472,260 white females, 128,015 colored males, and 131,713 colored females. Of the 955,906 whites of school age 927,987 were native born, comprising 469,295 males and 458,692 females, and 27,919 were of foreign birth, comprising 13,991 males and 13,928 females. Of 259,728 colored of school age 259,491 were negroes or had negro blood. The male population of militia age was 599,221, comprising 434,637 native whites, 50,584 foreign-born whites, 113,343 negroes, and 657 Indians and other colored. The number of males of voting age was 737,768, of whom 514,188 were native and 85,773 foreign-born whites, making 599,961 whites in all, and 137,807 were colored, of whom 136,875 were negroes. Among the native white males of voting age 5.3 per cent. of those of native parentage and 10.6 per cent. of those of foreign parentage were illiterate; of foreign whites, 7.7 per cent.; of colored males of voting age, 45 per cent. Of the foreign-born males of voting age 43.1 per cent. were naturalized, 5.3 per cent. had their first naturalization papers, 15.1 per cent. were returned as aliens, and of 16.9 per cent. no details were given. Of the naturalized citizens 3.2 per cent., of those who had taken out their first papers 6.2 per cent., and of the aliens 13.9 per cent. were illiterate.

There were 34,160 deaths reported in Texas in 1900, of which 18,045 were males and 16,115 females, 26,216 whites and 7,944 colored, 23,526 native and 2,133 foreign whites.

Finances.—The appropriations voted for the biennial period ending Aug. 31, 1903, amount to \$5,752,685, compared with \$4,860,328 for the last biennial period; but, taking special appropriations into account, the Legislature voted only \$292,945 more than its predecessor.

Productions.—There were 4,553,495 acres under corn in 1900, yielding 81,962,910 bushels, val-

ued at \$38,522,568; 1,271,517 acres under wheat, yielding 23,395,913 bushels, valued at \$14,973,384; and 744,164 acres under oats, yielding 28,278,232 bushels, valued at \$8,483,470. The estimated cotton-crop of Texas for 1901 was 3,550,000 bales. The drought that affected the Western States in 1901 was a serious blow to Texas. Corn was not more than half a crop, and wheat was a failure, the wheat-louse having destroyed a large part of the crop. Cotton was attacked by the new enemy, the Mexican boll weevil, against which the planters fought with energy as soon as the destructive nature of the pest was appreciated. In some districts they made up a purse to pay a bounty for dead insects. It is estimated that its ravages reduced the year's crop by 242,500 bales. The weevil never appeared in dangerous numbers before 1900, but in 1901 it infested the river counties of southern and central Texas and appeared in isolated localities in the north. In some sections only a tenth of a crop was harvested. The acreage of cotton was 7.1 per cent. greater than in 1900. The destruction of wheat and oats by the aphid caused farmers in the north to plant more cotton, and the higher prices led to planting on new land, but in the south diversification of crops kept the cotton area down to the average. Rice is a new crop for Texas, but its culture in the coast district and on bottom-lands by means of irrigation is already an important industry. A great deal of capital has been put into pumping-stations and irrigating canals, and a great deal more is being attracted to the rice industry, which has led to a great advance in the price of suitable land. In 1901 the area planted to rice was three times as much as in 1900. The crop was seriously affected by scarcity of water. Still it reached 1,000,000 sacks, twice as much as was raised the year before. Another new development is the cultivation of vegetables and fruits for northern markets, especially in the belt of black land in eastern Texas, which produces without fertilizing. Tomatoes and peaches are the principal crops, and after these strawberries, cantaloups, cucumbers, cabbages, cauliflowers, and sweet potatoes.

In the cattle-ranches of western and northwestern Texas the long-horned cattle have given place to herds bred up to the best strains of Herefords, shorthorns, or red-poll cattle. There are vast regions that with irrigation can be made as productive as any part of the country, though now unfit for agriculture. The failure of food-crops and pasturage from drought and the consequent loss of cattle reduced the people of Zapata County and parts of adjacent counties in 1901 to a state of destitution. Deaths occurred from starvation before aid could be brought from outside. The live stock of Texas is officially estimated at 1,500,000 horses, 250,000 mules, 800,000 milch cows, 6,000,000 other cattle, 2,500,000 sheep, and more than 3,000,000 swine. The State produced only half as much wool in 1900 as in 1893. The raising of hogs and poultry, on the other hand, has grown in connection with the diversification of farming. Splenic fever having appeared in the southeastern counties, quarantine was enforced against these infected districts and against one in Oklahoma from Nov. 1, and from May 1, 1902, against Louisiana to keep out anthrax; furthermore, all persons were warned to report any case of anthrax or of glanders among their live stock. The Secretary of the Interior intended to open to settlement, on Aug. 4, the Kiowa, Comanche, Wichita, and Apache reservations, on which Texas cattlemen had 150,000 head of immature cattle, but at their request he re-

served pasture-lands on which they could get their stock ready for market.

The pine-lands of Texas, in the absence of forest laws, are being stripped of trees of all sizes. There are less than 40,000,000,000 feet of pine lumber still standing, and it is being cut down at the rate of 1,000,000,000 feet a year.

There are extensive fields of cinnabar in western Texas, on which operations were begun in 1901. Successive ranges of mountains conceal the mineral treasures of this region, which has been very imperfectly explored. The Attorney-General having given an opinion, when miners applied for mineral lands, that only such were open to mining claims as the State Geological Survey designated as mineral lands, many persons applied as agricultural settlers for land in the quicksilver districts of western Texas, on some of which mining companies had erected expensive works, and which these applicants sought to obtain for \$1 an acre, the lands having been classified as agricultural lands and valued at that price, and the claimants having settled on the sections they claimed before the mines were opened. The State Land Commissioner refused to grant patents, leaving it to the courts to solve the difficulty. An act of 1895 provided for filing certain descriptions of unsurveyed land under the mineral act, while an act of 1900 appropriated all unsurveyed lands to the permanent school fund. The Land Commissioner, recognizing these contested lands as mineral lands, raised the price to \$100 an acre, whereas if they were sold as grazing or agricultural lands at 25 cents to \$1 an acre the school fund would receive no benefit, since they are unfitted for grazing or agriculture, would be used only for mining, and the purchasers, paying only 2½ per cent. of the purchase price down and interest on the remainder, would abandon them when the minerals were exhausted, which would be long before the forty years expire, at the end of which the State can demand the balance.

Texas has two large bituminous coal-fields, and there are deposits of lignite of superior quality in many parts of the State. This material has not been much utilized, although it can be made into briquettes and has been found to be a good fuel for industrial or smelting purposes, when saturated with crude petroleum. In 1900 lignite formed one-third of the coal-production, the total of which was 1,022,827 tons. Mineral oil was first struck in Corsicana. On Jan. 10, 1901, A. F. Lucas, boring at Beaumont, struck a gushing well at a depth of 1,300 feet, which threw a 6-inch stream of oil 175 feet into the air. Speculators and oil experts gathered from all parts of the country. Land was bought or leased at many times the former price, and the new price was multiplied when a piece again changed hands. A company headed by D. R. Beatty, of Galveston, sunk a well close to the first one, which flowed with equal volume when the pipe tapped the reservoir. On March 29 and April 3 productive wells began to flow which were driven for a syndicate formed by J. M. Guffey, of Pittsburg, which controlled the first well and a great part of the oil-field. The Higgins company found oil on April 6, the Guffey company completed another well on April 8, and on April 18 the Heywood well began to flow. It was several days before the Lucas well was got under control, and it was not until the pipe was sunk below the cap-rock that it was safe from being clogged with sand. The drillers learned the depth at which they could expect oil, and were ready to close the valve before the rush of oil became uncontrollable, but not until the geyser in some instances had

ejected the pipe, and the well-spent gas at the start of the well, and the most violent burst forth at a point where no such violent burst was expected, and debris and broken pipes were lost by breakage. In order to close the valve, apparatus was used which had broken loose, and were used to close the valves. Only 20 wells were struck in August, but in that month 25 were struck in September 19. All these were in Spindletop hill, within a radius of less than half a mile from the first wells that were struck. On this hill oil was found at depths of 600 to 1,300 feet, always at the same great pressure, but not in every spot. Some holes were drilled on the hill which brought no oil. Outside in all directions hundreds of places were tried, and no oil was found. All the productive wells came from a reservoir that apparently had a very limited area. Indications of mineral oil have been noticed in many places in Texas since Americans first settled there, and many persons have tried to find the sources. After the strike on Spindletop oil was found with pressure both at Sour Lake and at Jennings, but the pipes became clogged with sand. The larger companies at Beaumont built pipe-lines to the railroad and to tidewater at Port Arthur, which is only 16 miles distant. When the smaller companies and individuals who had gushers began to offer their oil at lower prices, arrangements were made by the others to take it to market for them. A demand soon arose for the Texas oil as fuel. Manufacturers of neighboring cities put in appliances for feeding their furnaces with oil through small pipes, and found it half as dear as coal. Steam-vessels and railroad locomotives were fitted to use it as fuel. It was shipped to London to be used in combination with coal for the manufacture of illuminating-gas. Tank steamers supplied it as a substitute for steam-coal to cities on the Gulf seaboard, and tank-cars to cities of the Mississippi valley. Refineries were started which extracted 21 per cent. of illuminating-oil without impairing the value of the oil for fuel. The price at the wells was kept at 30 cents a barrel of 42 gallons. The oil is a heavy compound like the Russian oil, having a strong odor of sulfuretted hydrogen, containing naphtha, benzine, paraffin, lubricating-oils of superior quality, common asphaltum, and asphaltum used in paints, and more than 50 per cent. of illuminating-oil. In the summer the production reached 1,000,000 barrels a day, and in the autumn many new wells were opened without reducing the pressure. The development of the Corsicana field made progress also, and oil was struck in other counties. The changes and shortcomings of the Texas land and mining laws left open a question as to the rights of the oil operators. From 1883 to 1889 the law reserved the mineral rights of State lands sold for schools, and this affects some of the oil-fields.

Legislative Sessions.—The Legislature met on Jan. 14, 1901, and closed its session on April 9. Most of the general legislation was merely intended to cure defects in existing statutes. A law on civil libel defines what is actionable clearly enough to enable publishers to avoid giving cause for suits. An act prohibiting the playing of cards in any place save a private residence occupied by a family was intended to close a loophole which existed for the evasion of the law against gambling. An act regulating the practise of medicine shuts out persons who have bought diplomas, without study or experience, from fraudulent colleges. A law was passed prohibiting the black-listing of employees. Shipments of liquor into

local-option districts to be paid for on delivery are prohibited in order to make prohibition in such districts more effective. An offset to this bill is one absolving saloon-keepers from the penalty attached to sales of liquor to habitual drunkards, provided they make such sales unknowingly. Aliens who have resided twelve months in Texas and have declared their intention to become citizens are entitled to vote. A constitutional amendment to be submitted to the people provides that the payment of the poll-tax shall be a prerequisite to the right to vote. A law against barratry makes it a criminal offense for a lawyer to seek employment in any suit or action either by personal solicitation of his own or by procuring another person to solicit for him. The Legislature amended and extended the laws relating to public roads in many counties. A mineral survey of State lands was ordered, and provision was made for an official analysis of mineral specimens. A general land bill opens certain State lands to settlement. There was a demand for the abrogation of leases to cattlemen, to enable settlers to select agricultural lands thus leased, or at least a correction of the abuse by which these lessees are able to obtain the fee simple with the help of employees or other agents who take up sections for them at half or two-thirds of the price that settlers are willing to pay. Acts regulating railroads extend the police powers of the Railroad Commissioners and prescribe a general penalty for violation of the railroad laws where no penalty was specified, empower the commission to regulate crossings, and require railroad companies to prevent Johnson grass or Russian thistles from going to seed on their right of way. Various special railroad acts were passed, and certain companies were allowed a longer time to complete their lines. A general act permits companies to issue stock and bonds in extensions without regard to the stock and bonds outstanding on the part of the railroad already completed. The Attorney-General had given an opinion that, under the law as it stood, the Railroad Commission, in treating applications for the issuance of stock and bonds, consider the capitalization of the entire line, since the extension would also be affected by the mortgage covering the railroad. The Railroad Commission believed many of the older lines to be overcapitalized, and under this rule would have to deny applications for the right to issue new stock and bonds for extensions, which would cause a suspension of railroad building in Texas. Railroad construction in this State in 1901 exceeded that in any other, amounting to 583 miles, and a still greater mileage was projected for 1902. The venue of suits against railroad companies for damages on account of personal injuries was fixed by a new law in the county in which the injury occurred, or that in which the plaintiff resides. This act and the one defining barratry were intended to remedy a disreputable species of legal practise to which the Railroad Commission called attention in its annual report. Another act permits the formation of companies for growing fruit, vegetables, or tobacco. Another permits land companies chartered in Texas to do business outside of the State. An act regulating mutual fire insurance companies requires evidence of their solidity, and thus supplies an omission in the existing act. An act affecting practically lumber and mining companies prohibits the payment of employees with merchandise checks.

The Legislature met in special session on Aug. 10 to vote appropriations for the two years beginning Sept. 1, 1901, and to redistrict the State. The Governor thought that both measures could

be dealt with, but the legislators were determined to have two special sessions of thirty days or less. The bills apportioning the State into districts for Senators and Representatives in the Assembly, on the basis of the last census, were passed, but not the bill dividing the State into judicial districts. The State was divided into 16 congressional districts. The general appropriation bill was not passed before the session ended on Aug. 31, and a second special session had to be called on Sept. 3. Bills were passed permitting owners of lands and town lots that had been sold for taxes to redeem them; authorizing Galveston to build a breakwater, and to compromise its indebtedness; providing for the maintenance of deaf, dumb, and blind children; granting unincorporated towns and villages permission to incorporate for school purposes only.

The Treasurer having placed State funds in a bank that failed and the Comptroller being charged with assessing his clerks for his campaign expenses, the Legislature ordered a general investigation of the departments. The appropriation bill having been agreed to, the session ended on Oct. 1. Confederate pensions were increased from \$100,000 a year to \$150,000 by the last Legislature, and were now increased to \$200,000. There were 6,225 pensioners at the beginning of the year, and several hundred were added afterward. The salaries of clerks in various departments were raised, while appropriations for charitable institutions were cut down, and very little was voted for permanent improvements. The Legislature, in furtherance of the policy to do away with the convict-labor system, sanctioned the purchase of 2,500 acres adjoining the leased farm on Brazos river bottom, making the whole convict farm 8,000 acres, on which 500 negro convicts will be employed in growing sugar-cane.

Prosecutions.—The Attorney-General and his subordinates prosecuted companies and associations that were violating the State antitrust law of 1899. Several Texas breweries lost their charters for entering into a combination to regulate prices, and penalties were collected from them and from foreign brewing companies. The master plumbers' association was dissolved. The local oil company distributing the products of the Standard Oil Company was prosecuted vigorously, although it had been reconstituted so as to conform to the statute. Proceedings were begun against the associated companies that bale cotton for foreign destinations with patent compresses.

The Damage by Storm.—The storm that caused damages to the extent of \$20,000,000 to Galveston and millions more to other parts of the coast region, on Sept. 8, 1900, and the loss of about 8,000 lives, drew contributions from all parts of America and from some of the countries of Europe. The sum expended in relief amounted to \$1,948,414, of which \$1,518,467 were devoted to the people of Galveston. The Legislature voted to allow Galveston to use State taxes for the next two years assessed on its property, for raising the grade. The Government is dredging the docks at Galveston to a depth of 25 feet, and has plans for a channel of that depth through Buffalo Bayou to Houston.

Houston.—This city, which in ten years increased in population to 44,633 in 1900, was already an important railroad center and manufacturing city and a mart for the lumber, rice, sugar, and tobacco of southern Texas before the discovery of oil, and now the trade in fuel-oil and its local use in manufacturing have increased the city's growth and importance. Including suburbs, it has about 65,000 inhabitants, having doubled

35.9 bushels; product, 918,214 bushels; average price, 44 cents. Barley—acreage, 5,964; yield per acre, 36.5 bushels; product, 217,686 bushels; average price, 55 cents. Rye—acreage, 3,383; yield per acre, 17.5 bushels; product, 59,202 bushels; average price, 52 cents. Potatoes—acreage, 5,500; yield per acre, 118 bushels; product, 649,000 bushels; average price, 48 cents. Hay—acreage, 192,398; yield per acre, 2.65 tons; product, 509,855 tons; average price, \$7.95. Cotton—40 acres; product, 26 bales, or 13,000 pounds; value of crop, \$934.80. Wool—product, 14,136,981 pounds unwashed and unscoured; 4,947,943 pounds scoured; average weight of fleece, 6.25 pounds.

The live-stock interests made great strides during the year. The number of horses and mules in 1901 was 85,632, of a total value of \$1,874,753, compared with a value of \$1,414,693 in 1900. The cattle in 1901 numbered 348,557, with a value of \$8,576,952. In 1900 there were 192,216 cattle, with a value of \$3,199,789. The number of sheep grazing in the State in 1901 was 2,264,837, and their value was \$8,150,330. For the previous year the number of sheep was 1,566,101. The number of hogs in 1901 was 53,488, and the value \$372,114, compared with 15,848 in 1900, with a valuation of \$45,656.

In agriculture the most notable feature was the great increase in acreage of potatoes and sugar-beets. These are the most profitable crops for the farmers, and more attention is being given to them.

The number of mortgages in the State is 10,822, amounting to \$22,854,943.

Mining.—The development of the mining industry was the most powerful factor in the great prosperity of the State during the year. Capital poured in from outside to develop the great mineral resources, and Utah money was used for the same purpose. The greatest advance was in the production of copper. The old camp of Bingham, worked for many years for its silver-lead values, is now known principally for its copper, and a large section of Beaver County, where silver-lead mining was formerly prosecuted, is developing and shipping great quantities of copper, combined with silver and gold. Other parts of the State are also developing copper in great quantities. The production of this metal in 1901 was \$3,750,254.20, compared with \$2,514,597.40 in 1900. There have been advances in other branches of metal mining. The silver product increased from \$6,248,610.07 in 1900 to \$6,801,816.18 in 1901. The production of lead in 1901 was \$3,210,967.50, and for 1900 it was \$3,122,863.25. Gold showed a slight falling off, owing principally to litigation involving some of the most important producers. The output in 1901 was \$3,817,420, and in 1900 it was \$4,125,220. The total output of these four metals was \$17,580,457.88 for 1901, and \$16,011,290.72 in 1900. The dividends paid by Utah mines in the year amounted to \$4,592,058, compared with \$2,452,300 for 1900. This does not include several mines owned by private persons or close corporations that do not give out statements of profits.

Petroleum.—Early in the year attention was directed to the oil resources of the State. Oil-springs were discovered and located in several places, and boring began in different fields. Oil was struck in moderate quantities at no great depth, and the year closed with a large number of corporations and individuals preparing to sink wells to great depth. The Utah oil so far discovered has been principally of the lubricating variety, although there have been some discoveries of illuminating-oil and some of fuel-oil.

Railroads.—The year was marked by railroad activity. The San Pedro, Los Angeles and Salt Lake road and the Oregon Short Line both began the construction of lines to connect Salt Lake directly with southern California. The former road began building from Los Angeles, having already a road to San Pedro harbor. The Oregon Short Line in April acquired the Utah and Pacific road, thus giving it a line from Salt Lake to Uvada, and began construction from the Utah end. The Rio Grande Western road passed, July 1, into the hands of the Denver and Rio Grande, which acquired it by purchase. Several million dollars were appropriated for improvements in Utah by the Union Pacific, Oregon Short Line, Southern Pacific, and Rio Grande Western.

State Lands.—The sale of State lands in 1901, with interest on previous sales, amounted to \$233,885.25. The funds principally benefited are the common-school, university, reservoir, Agricultural College, and School of Mines funds, in the order named. The rest is distributed among various public institutions. The total land surface in the State is 82,096 square miles; the total water surface, 2,832 square miles. The land surface is divided as follows: Surveyed, 29,813.14 square miles; unsurveyed, 52,282.86 square miles; reserved, 8,574.48 square miles; appropriated, 7,090.5 square miles. A large proportion of the unappropriated land is valuable for agriculture, grazing, or mining. The unappropriated land belongs to the Federal Government, except certain grants made to the State for the support of various institutions, as follow: University of Utah, 155,836.15 acres; Agricultural College, 200,000 acres; Deaf and Dumb Asylum, 100,000 acres; Insane Asylum, 100,000 acres; Institution for the Blind, 100,000 acres; Miners' Hospital, 50,000 acres; normal schools, 100,000 acres; public buildings, 64,000 acres; Reform School, 100,000 acres; reservoirs, 500,000 acres; School of Mines, 100,000 acres. For the common schools were set aside four sections in every township, and 5 per cent. of the proceeds of sales of public lands within the State.

Coal.—The production of coal in 1901 eclipsed all previous records. The production was 1,382,470 tons, compared with 1,233,978 tons for 1900. The number of persons employed was 1,780. Nine lives were lost. The production was 777 tons for each employee. The total value of the output was \$1,631,314.60. Considerable work was done in developing new mines. The State has immense undeveloped deposits of coal.

Industries.—Great advances were made in the leading manufacturing industries, especially smelting and beet-sugar manufacture. The value of the product of the smelters was \$25,000,000. Several new and large smelters were started this year. The beet-sugar factories had an output of 32,000,000 pounds, valued at \$1,760,000. The average price for the beets was \$4.75 a ton, affording a handsome profit to the farmers. By the close of the year, nearly 25,000 acres of beets had been contracted for in the crop of the ensuing year.

The flouring industry suffered through the shortage of wheat, due to drought and grasshoppers. The Utah mills were kept running on wheat from Washington and Oregon.

The silk industry is encouraged by the State, a bounty of 25 cents a pound being paid on cocoons. The total value of the crop for the year is placed at \$2,604.

The total products of the State during the year are placed at \$52,228,137.

Legislation.—The Legislature convened Jan. 14 and adjourned March 14. Laws were passed

providing for a State School of Mines, making it a misdemeanor to work men more than eight hours a day on public works, forbidding the making it compulsory on the employees of any firm or corporation to trade at a certain store or patronize a designated boarding-house, forbidding the unauthorized wearing of the insignia of the Grand Army of the Republic, the Loyal Legion, or medals presented to volunteers in the Spanish-American War; requiring street-railway companies to vestibule all cars used during the winter months; creating a bureau of statistics to collect and arrange information about the State; providing for a reservoir fund for aiding in the irrigation of arid lands; providing that fire and accident insurance companies must do all business in the State through resident agents; providing for rigid inspection of the coal-mines; forbidding the keeping of slot-machines for gambling or exhibiting unchaste pictures; providing for the destruction of ground-squirrels; providing for the establishment in cities of the first and second classes of municipal courts superseding police and justice courts; providing for the regulation of irrigation under the supervision of the State engineer; requiring fire protection and safety appliances on the hoists in mines; providing for more stringent protection of fish and game; increasing the appropriation and facilities for the commission to encourage the growing of silk; providing for a bounty for the destruction of coyotes, lynxes, wild cats, wolves, mountain-lions, and bears; and making the docking of horses' tails a misdemeanor.

Mormonism.—Important changes took place in the Mormon Church. George Q. Cannon, first counselor, for many years a guiding spirit in the Church, died April 12. President Lorenzo Snow, generally considered the ablest president of the Church since the death of Brigham Young, died Oct. 10. A week later Joseph F. Smith, nephew of the founder of the faith, was chosen president, with John R. Winder and Anthon H. Lund as his counselors. The Mormon Church gained many converts in 1901 through its active proselyting, but it lost in political power. The principal reason for its waning prestige is the great influx of non-Mormons, who form the majority in the principal cities.

Political.—A United States Senator was elected to fill a vacancy which existed for two years owing to the failure of the previous Legislature to elect. The Republicans had a majority of the Legislature, and they held a caucus Jan. 18. The first ballot resulted as follows: W. S. McCormick, 9; A. L. Thomas, 8; Thomas Kearns, 8; Arthur Brown, 5; George M. Cannon, 4; O. J. Salisbury, 1; Reed Smoot, 1; C. E. Allen, 1. Balloting was continued four days. Jan. 22 Thomas Kearns received a majority in the caucus, and the next day he was elected by a solid Republican vote, the Democrats voting for A. W. McCune.

VERMONT, a New England State, admitted to the Union March 4, 1791; area, 9,565 square miles. The population, according to each decennial census, was 154,465 in 1800; 217,895 in 1810; 235,966 in 1820; 280,652 in 1830; 281,948 in 1840; 314,120 in 1850; 315,098 in 1860; 350,551 in 1870; 332,286 in 1880; 332,422 in 1890; and 343,641 in 1900. Capital, Montpelier.

Government.—The following were the State officers in 1901: Governor, William W. Stickney; Lieutenant-Governor, Martin F. Allen; Secretary of State, Fred. A. Howland; Treasurer, John L. Bacon; Auditor, Orion M. Barber; Adjutant-General, William H. Gilmore; Superintendent of Education, W. E. Ranger—all Republicans; Su-

preme Court, Chief Justice, Charles W. Allen; Associate Justices, John W. Rowell, John C. Allen, and William M. Tyler, and William W. Allen, all Republicans.

State officers are elected for a term of one year, except the members of the even-numbered years. The Legislature meets biennially in October. There are 30 Senators and 150 Representatives. The town system of representation is maintained.

Population.—According to the census of 1900, and color, the population is divided as follows: Males, 175,138; females, 168,503; native born, 298,894; foreign born, 44,747; whites, 342,771; negroes, including all persons of negro descent, 826; Chinese, 39; Indians, including those taxed and not taxed, 5. According to school and voting age, the division is as follows: Total of school age, five to twenty years, 98,614, including 98,357 whites and 255 negroes. Total of voting age, 108,356, including 87,465 native born, 20,891 foreign born, 108,027 whites, 289 negroes, and 8,544 illiterates. The average density of population to the square mile is 37.6.

Finances.—The Auditor of Accounts has issued a statement showing the revenue and disbursements of the State of Vermont for the fiscal year ending June 30, 1901.

The receipts were: Cash on hand and in banks, \$117,161.20; Agricultural College fund, \$8,130; Bennington Battle Monument fund, \$32.17; from savings-banks and trust companies, salary and expenses of Inspector of Finance, \$1,555.53; commercial fertilizer companies, license fees, \$900; Insurance Commissioners, fees collected of foreign companies, \$8,372.25. United States Government—Aid to Soldiers' Home, \$3,692.67; endowment of Agricultural College, \$25,000; account reimbursement for expenses incurred in war with Spain, \$2,248.85. Judges of probate, fees, \$26,714.53; county clerks, judgments, and balances, \$25,026.18; Burlington city court, fines and costs, \$3,224.73; State Prison, \$21,127.41; Industrial School, \$900; House of Correction, \$15,233.58; State Hospital for Insane, \$5,151.95; peddlers' licenses, \$375; collateral inheritance taxes, \$50,758.14; license taxes of 1901 and arrears of previous years, \$12,385; corporation taxes, \$453,543.42; charter fees, \$1,295; Secretary of State, charter fees, \$2,800. Towns—balance of State tax of 1899, \$4,412.79; balance of State school tax of 1900, \$2,065.82; balance of State highway tax of 1900, \$2,065.82; State school tax of 1901, \$88,621.81; United States deposit money, for redistribution on census of 1900, \$42,055.27; excess profit on liquor agency sales, year ending February, 1901, \$3,012.77; account highways and bridges, \$537.50. Temporary loans, act of 1898, \$110,000; temporary loans, act of 1900, \$150,000; interest on bank balances, etc., \$788.72; sundries, \$6,160.08; total, \$1,283,970.

The disbursements were: University of Vermont and State Agricultural College, United States endowment of agricultural colleges, \$25,000; Bennington Battle Monument fund, \$32.17; interest, \$24,727.37; temporary loans, act of 1898, \$110,000; temporary loans, act of 1900, \$50,000; arrears of State pay, act of 1861, 70 cents; extra State pay, act of 1898, \$352.36; amounts advanced to soldiers, \$530.84; towns—distribution of State school tax of 1900, \$87,805.89; distribution of State highway tax of 1900, \$88,305.45; redistribution of United States deposit money on census of 1900, \$49,891.25; debentures of General Assembly, session of 1900, \$54,805.40; Auditor's orders, \$690,958.64; cash on hand and in banks June 30, 1901, \$101,559.93; total, \$1,283,970.

The sources of revenue for the fiscal year July 1, 1901, to June 30, 1902, are: State tax, \$265,000; corporation taxes, estimated, \$425,000; collateral inheritance tax, estimated, \$35,000; total, \$725,000.

The liabilities payable during the year are: Due to soldiers, war of 1861-'65, unpaid balances, \$8,028.72; due to soldiers, war with Spain, unpaid balances on claims filed to date, \$54.75; unpaid Auditor's orders, \$8,139.88; excess of ledger liabilities over assets less registered loan due 1910, \$182,242.35; total, \$198,465.70. Balance available for the payment of current expenses July 1, 1901, to June 30, 1902, \$526,534.30.

Agriculture.—Official reports published this year show that the area, product, and value of Indian corn, wheat, and oats in the State during 1900 were as follow: Corn, 48,477 acres produced 1,930,080 bushels, valued at \$969,540; wheat, 3,489 acres produced 81,992 bushels, valued at \$63,954; oats, 106,581 acres produced 3,719,677 bushels, valued at \$1,339,084.

Education.—The latest available returns show that Vermont has 3 institutions under the heading of universities and colleges of liberal arts, with a total income of \$111,327. In the public schools there are 65,964 pupils, with 3,742 teachers, and an average daily attendance of 47,020.

VIRGINIA, a Southern State, one of the original thirteen, ratified the Constitution June 25, 1788; area, 42,450 square miles. The population, according to each decennial census, was 747,610 in 1790; 880,200 in 1800; 974,600 in 1810; 1,065,116 in 1820; 1,211,405 in 1830; 1,239,797 in 1840; 1,421,661 in 1850; 1,596,318 in 1860; 1,225,163 in 1870; 1,512,565 in 1880; 1,655,980 in 1890; and 1,854,184 in 1900. Capital, Richmond.

Government.—The following were the State officers in 1901: Governor, J. Hoge Tyler; Lieutenant-Governor, Edward Echols; Secretary of State, Joseph T. Lawless; Attorney-General, A. J. Montague; First Auditor, Morton Marye; Second Auditor, John G. Dew; Treasurer, A. W. Harman, Jr.; Adjutant-General, W. Nalle; Superintendent of Public Instruction, Joseph W. Southall; Commissioner of Agriculture, George W. Koimer; Railroad Commissioner, James C. Hill; Commissioner of Labor, J. B. Doherty; Register of the Land Office, J. W. Richardson; President of the Supreme Court of Appeals, James Keith; Justices, A. A. Phlegar, John A. Buchanan, George M. Harrison, and Richard H. Cardwell. All are Democrats.

Three of the State officers—Governor, Lieutenant-Governor, and Attorney-General—are elected by the people. They each serve four years. The election for these officers took place in November. Other elective State officers are elected by the Legislature for two years, except the Railroad Commissioner and Superintendent of Public Instruction, each for four years. The Adjutant-General is appointed by the Governor for four years, the Commissioner of Agriculture and Commissioner of Labor each for two years. The Legislature meets biennially, the first Wednesday in December in odd years. There are 36 Senators and 86 members of the House.

Population.—According to sex, nationality, and color, the population is divided as follows: Males, 925,897; females, 928,287; native born, 1,834,723; foreign born, 19,461; whites, 1,192,855; negroes, including all persons of negro descent, 660,722; Chinese, 243; Japanese, 10; Indians, including those taxed and not taxed, 354. According to school and voting age, the division is as follows: Total of school age, five to twenty years, 704,771, including 435,612 whites and 268,962

negroes; total of voting age, 447,815, including 436,389 native born, 11,426 foreign born, 301,379 whites, 146,122 negroes, and 113,353 illiterates. The average density of population to the square mile is 46.2.

Finances.—The operations of the treasury for the fiscal year ending Sept. 30 are summarized as follow: "The State has met all current expenses, including the expenses of the extra session of the Legislature; has paid the expenses of the Constitutional Convention; has given \$170,000 to disabled Confederate soldiers (an increase of \$27,500 over the previous year); gave an increase of \$21,000 to the public schools; put \$435,500 to the credit of the sinking-fund, \$68,000 to the credit of the literary fund, and has on hand at this time \$700,000."

The receipts and disbursements were as follow: Amount on hand Oct. 1, 1900, \$791,321.84; receipts from all sources during the year, \$3,633,156.39; total, \$4,424,478.23. Disbursements, \$3,597,881.17. Balance on hand Oct. 1, 1901, \$826,597.06. The disbursements include \$292,000 turned over to the Commissioners of the Sinking-Fund, with which to purchase State bonds.

The public debt now in the hands of the public is: Riddleberger bonds, \$4,572,226.88; century bonds, \$16,966,770.09; total, \$21,538,996.97. With schools and colleges, \$2,466,455.85; total, \$24,005,452.82. The literary fund holds \$1,710,227.28.

Valuations.—The Auditor of Public Accounts reports that the value of real estate in Virginia has increased \$22,844,095 since 1895. The increase by reassessment of 1900 in cities over reassessment of 1895 was \$8,842,449. The total increase over assessment of 1899 was \$1,689,597. The increase by reassessment of 1900 in counties and cities over reassessment of 1895 was \$22,844,095. The increase over assessment of 1899 was \$13,526,775.

Education.—Since 1897 the appropriations for public schools have increased \$162,235. The present enrolment of pupils exceeds that of 1897 by fully 7,000. Three hundred new schools have been opened during that period, and the value of school property has increased more than \$500,000.

Penitentiary.—The earnings of the Penitentiary for the fiscal year were nearly \$5,000 in excess of those in 1900. The net earnings were \$43,053.71. The net balance of profits for the fiscal year was \$42,944.86. The number of prisoners receiving conditional pardons was 115. The average number of convicts in the Penitentiary was 1,199. To feed, clothe, and guard these for the twelve months ending Sept. 30 entailed an expenditure of \$80,707.85. It cost the State \$67.31 to keep each convict in prison for the year.

State Industries.—The Bureau of Labor reports, issued in January, gives many valuable facts regarding the industries of Virginia. The following are among the most important mentioned: Requests for figures were sent to 86 tobacco manufacturing firms, and replies were received from 40. The reports from the 40 show value of goods manufactured in 1899, \$7,152,224.55. This is an increase over the previous statement of \$4,971,718.72. The amount of capital invested was \$3,566,390.76. The amount paid in wages during the year by the 40 firms reporting was \$962,722.86.

The report on cotton presents statistics from 7 mills, all that the State contains. The value of goods manufactured in the year was \$5,656,199.16; the value of manufactured goods on hand in January, 1900, was \$265,360.38; value of all stock and materials used (fuel, light, water-power, boxes, barrels, etc.) during year, \$156,497.37; value of stock and material on hand

in January, 1900, \$2,984,603.56; amount of wages paid in the year, \$651,297.23. Capital invested, \$2,984,603.56—an increase of \$586,203.56, compared with the previous year. The number of employees in all branches was 2,864, of which number 1,214 were females.

One plant reported a change of wages, which was an advance of 10 per cent.

Statistics are presented from 13 woolen-mills. The total value of goods manufactured in the year was \$387,404.75. For the year previous (nine reporting) the amount was \$287,700. Value of manufactured goods on hand January, 1900, \$56,855.24; value of stock or material used in the year, \$224,414.72; value of supplies used, \$9,221.24; value of stock or material on hand Jan. 1, 1899, \$73,906.15; capital invested, \$268,508.39; amount paid in wages, \$57,952.54.

Eight reports received from knitting-mills show the amount of wages paid during the year, \$291,491.88; capital invested, \$200,070; value of all stock and material used, \$307,532.71; value of all goods manufactured, \$879,631.05. The reports, almost without exception, say the condition of the knitting industry is good, but there is complaint of the scarcity of labor in Virginia.

The value of cigars and cigarettes manufactured in the year was \$4,465,760.80. The value of manufactured goods on hand, January, 1900, \$52,338.35; value of all stock or material used in 1899 was \$2,508,640.94. The value of supplies used in 1899 was \$24,171.80; value of stock and material on hand Jan. 1, 1900, \$188,533.21; amount paid in wages, \$483,795.07. Amount of capital invested, \$400,362.31.

Reports from iron foundries and machine shops (27 in number) showed the value of all goods manufactured in 1899 to have been \$5,570,484.70; value of goods on hand January, 1900, \$4,185,938.29; value of stock or material used, \$375,826.77; amount paid in wages, 1899, \$3,980,670.10; capital invested, \$7,502,075.20.

The value of all goods manufactured by brewers in 1899 was \$702,434.50, an increase of \$152,563.42 over the previous year, when the same establishments reported. Value of manufactured goods on hand January, 1900, \$95,635.55; value of all stock or material used, \$163,168.30; value of stock or material on hand January, 1900, \$23,119.04; amount paid in wages, \$100,070.35; capital invested, \$830,000.

Oyster-Fisheries.—The last Legislature appropriated \$5,000 to defray the expenses of resurveying the oyster-grounds. This work has been completed in York, Warwick, and Isle of Wight Counties, and some of the work has been done in several other counties. Of the amount appropriated, \$3,952 was expended up to Oct. 1.

The gain over 1900 from the planting ground was \$8,192.22, while the increase from tonging was \$1,737.02, and from dredging, fish-nets, etc., there was a small decrease. In the three and a half years of the operation of the law the net revenue to the State to Oct. 1, 1901, was \$103,272.72.

Political.—On Jan. 23 the Legislature was convened in extra session to arrange for the convention to formulate a new Constitution. This convention began its work on June 12. Hon. John Goode was made permanent chairman. On Oct. 23 a bill of rights, being Articles I, II, and III of the new Constitution, was agreed to. The following are its more important passages:

"ARTICLE I. 1. That all men are by nature equally free and independent, and have certain inherent rights, of which, when they enter into a state of society, they can not, by any compact,

deprive or destroy; that among these rights are the enjoyment of life, liberty, and property, and the means of acquiring and possessing them, and of peace and obtaining happiness.

"2. That all powers of government are consequently derived from the people, and that all magistrates are their trustees, and are at all times amenable to them.

"3. That government is instituted to protect and secure for the common benefit, the safety and security of the people, nation, or community, in all the various modes and forms of government, that is best which is capable of producing the greatest degree of happiness and safety, and is most effectually secured against the danger of maladministration; and that, when any government shall be found inadequate or contrary to these purposes, a majority of the community hath an indubitable, inalienable, and indefeasible right to reform, alter, or abolish it, in such manner as shall be judged most conducive to the public weal.

"4. That no man, or set of men, are entitled to exclusive or separate emoluments or privileges from the community, but in consideration of public services, which, not being descendible, neither ought the offices of magistrate, legislator, or judge to be hereditary.

"5. That the legislative, executive, and judicial departments of the State should be separate and distinct; and that the members thereof may be restrained from oppression, by feeling and participating in the burdens of the people, they should, at fixed periods, be reduced to a private station.

"6. That all elections ought to be free, and that all men, having sufficient evidence of permanent common interests with, and attachments to, the community, have the right of suffrage, and can not be taxed, or deprived of, or damaged in, their property, for public uses, without their own consent, or that of their representatives.

"10. That general warrants, whereby an officer or messenger may be commanded to search suspected places without evidence of a fact committed, or to seize any person or persons not named, or whose offense is not particularly described and supported by evidence are grievous and oppressive, and ought not to be granted.

"11. No person shall be deprived of his property without due process of law. In controversies respecting property, and in suits between man and man, a trial by jury is preferable to any other, and ought to be held sacred; but the General Assembly may, by law, in such cases, prescribe any number less than twelve, but not less than seven, to constitute a jury for the trial of all civil cases not now triable before a justice of the peace, and any number not less than five for the trial of civil cases now triable by a justice of the peace.

"12. That the freedom of the press is one of the great bulwarks of liberty, and can never be restrained but by despotic governments, and any citizen may speak, write, and publish his sentiments on all subjects, being responsible for the abuse of that liberty.

"17. That neither slavery nor involuntary servitude, except as lawful imprisonment may constitute such, shall exist within this State.

"18. The rights enumerated in this bill of rights shall not be construed to limit other rights of the people not therein expressed.

"ART. II. The Constitution of the United States, and the laws made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land.

"ART. III. The legislative, executive, and judiciary departments shall be separate and distinct."

The Democratic State Convention, on Aug. 15, nominated A. J. Montague for Governor, Joseph E. Willard for Lieutenant-Governor, and W. A. Anderson for Attorney-General.

The Republican State Convention, on Aug. 21, nominated J. Hampton Hoge for Governor, Robert W. Blair for Lieutenant-Governor, and D. Lawrence Groner for Attorney-General.

At the election in November, A. J. Montague received 116,682 votes and Hoge 81,366 votes, giving the former a plurality of 35,316.

The following were the votes on amendments:

In reference to the tax imposed on any citizens of the State for the privilege of taking or catching oysters from the natural beds with tongs—for, 12,230; against, 1,259.

Providing for the consolidation of spring elections with those held in the fall—for, 15,139; against, 7,254.

WASHINGTON, a Pacific coast State, admitted to the Union Nov. 11, 1889; area, 69,180 square miles. The population, according to each decennial census since admission, was 349,390 in 1890 and 518,103 in 1900. Capital, Olympia.

Government.—The following were the State officers in 1901: Governor, John R. Rogers; Lieutenant-Governor, H. G. McBride; Secretary of State, S. H. Nichols; Treasurer, C. H. Maynard; Auditor, J. D. Atkinson; Attorney-General, W. B. Stratton; Land Commissioner, S. A. Calvert; Superintendent of Public Instruction, R. B. Bryan; Adjutant-General, E. H. Fox—all Republicans except Rogers and Fox, who are Democrats; Chief Justice of the Supreme Court, James R. Reavis; Associate Justices, R. O. Dunbar, Mark A. Fullerton, T. J. Anders, Wallace Mount, W. H. White, H. E. Hadley; Clerk, C. S. Reinhart—all Republicans except Reavis and White, who are Democrats.

State officers are chosen for terms of four years, at the time of the presidential elections. The Legislature meets biennially in January of odd-numbered years. It was composed of 34 Senators and 80 Representatives, until at the regular session of 1901 the number of Senators was increased to 42 and the number of Representatives to 93.

Finances.—According to the report of the Treasurer, there was a balance in the treasury Sept. 30, 1901, of \$770,226.56. Some of the amounts on hand in the several funds were: General fund, \$105,415.21; current school fund, \$160,528.76; permanent school fund, \$52,276.17; military fund, \$70,895.65; revolving funds, Penitentiary, \$128,655.22; State Capitol Commission fund, \$168,299.74.

The State tax levy for 1901 as made by the State Board of Equalization was in the aggregate $7\frac{3}{4}$ mills, segregated as follows: For schools, 5 mills; general, $2\frac{1}{4}$ mills; interest, $\frac{1}{4}$ mill; military, $\frac{1}{4}$ mill; total, $7\frac{3}{4}$ mills. The total State levy for 1901 was $1\frac{1}{2}$ mill greater than that of the preceding year. The excess of $1\frac{1}{2}$ mill went to the current school fund, the per capita having been raised by the Legislature from \$8 to \$10 for school-children.

The railroad property as equalized was as follows: Main line, \$6,000 per mile, which is rated as first class; second class, \$2,280; third class, \$3,168; fourth class, \$2,000; fifth class, \$1,320. All equalized values were approximately higher by 5 to 20 per cent. than in 1900.

The amounts of taxes were computed as follow: State general tax, \$574,923; State school tax, \$1,306,644; tax for interest fund, \$52,265; for mili-

tary fund, \$52,265; grand total to be raised from all counties, \$1,986,097.

Education.—The apportionment of the current school fund, made by the State Superintendent for the quarter ending Oct. 31, 1901, was at the rate of 1 cent a day's attendance, and amounted to \$146,571.65 for all the counties.

The University of Washington, at Seattle, has graduated, since its organization, 304 students. Of these alumni, 290 were living at the end of the last year. The instructors in 1901 numbered 53; students, 614; volumes in the library, 13,000.

A successful year was reported by the Agricultural College and School of Science, at Pullman. The enrolment during the year was 628, including the summer science school for teachers, and 475 exclusive of that school. In the enrolment all but 5 of the counties in the State were represented. The faculty, including professors and instructors, and exclusive of tutors, numbered 36. The college had 7 buildings, including 2 dormitories, to which were added last year a new chemistry building and an armory and gymnasium. Besides the allied agricultural courses, the college has a preparatory school, a school for artisans, and a school of business. A recent branch of work is a short winter course for horticulturists.

Whitman College, at Walla Walla, graduated a class of 10. During the year it had 19 instructors and 300 students, and the library contained 9,000 volumes.

What is known as the Gunderson act, passed by the Legislature in special session over the Governor's veto, went into effect in September. The law provides that the county superintendent shall be *ex officio* president of the board; 2 of the members shall be lawfully qualified teachers engaged in teaching in the county, and 2 citizen taxpayers. Their term of office is four years. The board will have the power to name the text-books that shall be used in the schools of the county, subject only to the provision that they must be changed every five years.

Charities and Corrections.—In 1901 Washington was boarding, clothing, and caring for 2,100 persons in the institutions under the Board of Control. This task required the employment of 200 officials, and entailed an expense of \$700 daily for maintenance, besides large sums spent on buildings, repairs, etc. A member of the board is quoted thus: "About half of these 2,100 persons are in the hospitals for the insane at Medical Lake and Steilacoom, and many others are in the Reform School and the School for Defective Youth. In every case the full burden of their support and care is thrown on the State."

Under date of Dec. 14, 1901, Gov. Rogers issued a proclamation offering a standing reward of \$50 "for the arrest and delivery to the Penitentiary authorities of any person who has escaped from the State Penitentiary at Walla Walla."

Legal Decision.—What is said to be one of the most important decisions ever handed down by the Supreme Court of the State of Washington was made in April, 1901, in a case involving an application for a writ of prohibition by the State University regents against the State Land Commission. According to this decision, the Supreme Court is an appellate court only, except that it has original jurisdiction in habeas corpus, quo warranto, and mandamus proceedings as to State officers; the Legislature could not confer upon the Supreme Court original jurisdiction by enlarging the functions of any common-law writ, such as a writ of prohibition; the Legislature might enlarge the functions of such writs, but with this

original jurisdiction lies in the Superior Court, and not in the Supreme Court, to enforce the added remedies, and the Supreme Court only has in such cases appellate jurisdiction.

Productions.—Official figures place Washington fourth in rank among the States in the amount of wheat grown in 1900. The number of bushels raised in Washington is given as 25,096,661. Next before this State was California, with 28,543,628 bushels, and next after Washington was Nebraska, with 24,149,684 bushels. Of corn, Washington in 1900 produced 106,140 bushels, and of oats 3,016,226 bushels. For 1901 the wheat-crop was estimated at 29,000,000 bushels, the acreage having been considerably larger than the year before. The wheat exports from Seattle and Tacoma last year were greatly increased over all former years.

Prof. W. J. Spillman, of the Washington Agricultural College and Experiment Station, was engaged last year in originating new varieties of wheat particularly adapted to eastern Washington. He is one of a small number of men in the United States who are employed in such propagation.

There is a steady increase of the beet-sugar product of the State, which for 1901 the Secretary of Agriculture estimated at 2,000 tons. Home estimates were higher, indicating a crop nearly three times as large as that of 1900, with a correspondingly increased output of sugar. The sugar-beet is said to be well adapted for cultivation in Washington.

A large number of oil companies were formed in the State last year, and several have actively engaged in drilling.

Legislative Session.—The general appropriation bill of the last Legislature carried \$2,228,000. Some of the details were: Steilacoom Asylum, \$261,700; Medical Lake Asylum, \$181,300; Penitentiary, \$131,250; Reform School, \$52,200; School for Defective Youth, \$64,400; Soldiers' Home, \$35,200; Supreme Court, \$68,300; Superior Courts, \$72,700; State University, including money for maintenance and the construction of a science hall and a new power-plant, \$270,000; Agricultural College, \$94,800; Whatcom Normal School, \$93,800; Ellensburg Normal School, \$40,000; Cheney Normal School, \$45,000; revolving fund for the Penitentiary, \$150,000; maintaining the National Guard, etc., \$62,540. Among the enactments were the following:

For the purchase of the county court-house and grounds at Olympia for a State Capitol, and directing the Capitol Commission to make such additions to grounds and building as should be necessary to fit them for the use of the State, all at a cost not to exceed \$350,000. The new "House and Senate chambers and committee rooms shall be ready for the Legislature of the State of Washington when it assembles in January, 1903."

Regulating the practise of medicine in the State. The Governor vetoed it because it did not recognize osteopaths, but it was passed over the veto.

Establishing a system of traveling libraries, and providing for a State library commission to manage them.

Making it a misdemeanor to use or operate a nickel-in-the-slot machine of any character whatever, under penalty of a heavy fine or imprisonment.

Prohibiting horseshoers from practising their trade in cities without first passing an examination and obtaining a license.

Making it unlawful to sell, barter, or give away cigarettes to minors.

Creating a new judicial district.
Increasing the number of Justices of the Supreme Court.

For the examination of notary public, and the regulation of notaries.

To make kidnapping a crime punishable by imprisonment of not more than one year, or a fine of not more than one year, or a fine of not more than \$100, nor less than \$100.

Gov. Rogers convened the Legislature in an extraordinary session June 11. In his opening address he said: "The purpose for which this session is called together is, that it may pass a law to confirm, or amend the law relating to capital punishment." The reference is to a law of the last regular session providing a new rule for the execution of murderers condemned to death, which was thought to be so faultily drafted as to make it partially inoperative. The law in question was promptly repealed at the extra session, and an effectual substitute, embodying its purpose, was passed. The extra session lasted only two days, but several new bills were passed.

Militia.—By act of the last Legislature, radical changes were provided for in the National Guard. The reorganization practically places the militia of Washington on the same footing as the United States infantry. The chief provisions are the abolishment of the brigade staff, reducing the companies from 16 to 12, and increasing the number of men in each company to the full quota.

Constitutional Amendment.—May 1, 1901, Gov. Rogers announced by a proclamation that at the general election in the preceding November the constitutional amendment regarding exemption was ratified and had become a part of the Constitution of the State. The amendment reads: "The Legislature shall have power, by appropriate legislation, to exempt personal property to the amount of \$300 for each head of a family liable to assessment and taxation under the provisions of the laws of this State of which the individual is the actual bona fide owner."

State Capitol.—The bill to purchase the Thurston County court-house for a Capitol was signed by the Governor March 2, 1901. The amount received by the county from the State for the purchase was \$166,000, in payment of which the \$150,000 of Thurston County bonds held by the State were taken into consideration. Plans for making additions to the building were under way almost as soon as the act of the Legislature had become a law. The court-house is a fine building, fireproof, commodious, and elegantly fitted.

Geological Survey.—By the last Legislature the State Board of Geological Survey was created to supersede the Mining Bureau, which was abolished. The Legislature appropriated \$5,000 for the maintenance of the board for two years. By law the board must meet twice a year, on the first Tuesday in April and in November.

Game-Laws.—As amended by the last Legislature, the game-laws of Washington remain almost the same as in 1899, but there is one important addition, the main features of which are: That it is now unlawful for any resident or non-resident of the State, of the age of sixteen or over, to hunt any of the animals or birds protected by the State laws without a license from the county auditor. Furthermore, the law provides that a fee of \$1 for each license issued to a resident of this State, or of Oregon or Idaho, and a fee of \$10 for any other non-resident of this State, shall be collected by the county auditors for the game-protection fund. The recording of the license makes an additional cost of 75 cents.

Soldiers' Monument.—The Legislature of 1901 made an appropriation and provided for a commission for the erection of a State monument to 9 unclaimed dead of the First Washington Volunteers, buried in the Masonic cemetery at Olympia. The design adopted consists of a pedestal of Walla Walla polished granite 10 feet high, surmounted by a bronze figure of a soldier 6 feet tall, in fatigue uniform similar to that of the regiment.

WEST VIRGINIA, a Southern State, admitted to the Union June 19, 1863; area, 24,780 square miles. The population, according to each decennial census since admission, was 442,014 in 1870; 618,457 in 1880; 762,794 in 1890; and 958,800 in 1900. Capital, Charleston.

Government.—The following were the State officers in 1901: Governor, A. B. White; Secretary of State, W. M. O. Dawson; Treasurer, Peter Sillman; Auditor, Arnold C. Scherr; Attorney-General, Romeo H. Freer; Superintendent of Schools, Thomas E. Miller; Adjutant-General, S. B. Baker; Librarian, S. W. Stark; Bank Examiner, C. B. Kefauver; Secretary of the Board of Agriculture, J. O. Thompson; Labor Commissioner, I. V. Barton; Mine Inspector, J. W. Paull; Game and Fish Warden, E. F. Smith; Presiding Judge of the Supreme Court of Appeals, M. H. Dent; Associate Judges, Henry Brannon, H. C. McWhorter, George Poffenbarger. All the State officers are Republicans except Judge Dent.

State officers are elected for terms of four years at the time of the presidential elections, and are inaugurated on the 4th of the following March. The Legislature meets biennially in January of the odd-numbered years.

Finances.—The receipts in the Treasurer's office for the fiscal year ending Sept. 30, 1901, were: State fund, \$1,672,644.39; general school fund, \$436,877.96; school fund, \$79,263.92; total, \$2,188,786.27. The disbursements were: State fund, \$1,606,241.89; general school fund, \$458,133.14; school fund, \$151,134.10; total, \$2,215,509.13. Balance to credit of State fund Oct. 1, 1900, \$228,819.96; general school fund, \$387,460.71; school fund, \$518,468.55; total, \$1,134,749.22. Total of receipts and balance, \$3,323,535.49; subtracting disbursements leaves a balance in 1901 of \$1,108,026.36.

In addition to this there was to the credit of the State, Sept. 30, 1901, in bonds, stocks, and other investments of the school fund, \$649,249.50. The amount paid out for criminal charges for the year was \$125,000.

The chief sources of income for the year ending Sept. 30, 1901, were these: Licenses, \$306,277; corporation license on charter, \$380,506; railroad taxes, \$78,041; interest on deposits and stocks and bonds, \$68,549; sundries, fines, etc., \$26,977; capitations, \$157,055; land, \$295,023; buildings on land, \$53,435; lots, \$58,299; buildings on lots, \$92,887; intangible personal property, \$101,376; tangible personal property, \$86,974.

The large increase of receipts in 1901 arises principally from the operation of the new corporation law, the increase from this source being \$240,000 over the previous year. There was also \$88,000 increase in receipts from license taxes, and \$32,000 from redemption of lands, owing to the enactment of the law diverting these taxes from the irreducible school to the general fund.

Militia.—The Adjutant-General's report for 1901 gives an enrolment of 1,049 men in the State militia, with 125,000 available.

Education.—In 1901 there were employed 7,350 teachers in the public schools, which numbered 6,000. The total enrolment was 235,000,

and the total cost of the schools \$2,250,000. The total enrolment of the university at Morgantown and the 2 preparatory schools at Montgomery and Keyser was 1,013, the university enrolment being 882. The appropriation for the university was \$137,700. There are 6 normal schools.

Public Institutions.—The State in 1901 maintained the following institutions: Home for Incurables at Huntington; insane asylums at Weston and Spencer; Deaf, Dumb, and Blind Asylum at Romney; Boys' Reform School at Pruntytown; miners' hospitals at Welch, McKendree, and Fairmont; colored institutes at Kanawha and Bluefield; Home for Girls at Salem; Storer College.

The second building of the Asylum for Incurables was opened in February.

In 1901, 189 United States prisoners and 265 State prisoners were received at the Penitentiary, at Moundsville.

The West Virginia Historical and Antiquarian Society reports for the year 1901 more than 6,000 volumes, 4,000 pamphlets, many valuable manuscripts, maps, and a large collection of valuable autographs. The museum contains tens of thousands of relics, curios, and a fine exhibit of the timber, coal, marble, building-stones, fire and brick clays, and other products of the State, with specimens of its manufactures. A historical magazine, to be issued quarterly, was established in 1901.

Resources and Products.—West Virginia stands third in the production of coal, the quality of which is unsurpassed, as it is particularly free from sulfur. In 1901, 23,000,000 tons of coal were mined, 380 mines being in operation in 52 counties; 20,290,991 tons, valued at \$18,104,391.90, were produced in 21 counties. In 90 of the mines 390 electrical machines were used, which reduced the number of miners from 33,000 to 32,386. Forty new mines were opened, one in Mingo County being the largest in the world. The average number of days spent in mining coal was 225, the average wages per man \$46.65 per month.

The United States Steel Corporation leased from the Pocahontas Coal Company 50,000 acres of coal-field, also 3,000 coke-ovens which had an output of 1,500,000 tons of coke. The price paid was \$20,000,000.

In the production of coke West Virginia stands second. In 1901, 3,000,000 tons of coke were produced, valued at \$3,635,051.76, the ovens being in operation two hundred and thirty-five days. The State stands first in the production of petroleum, 20,000,000 barrels being produced in 1901. The State also leads in oil and natural gas, the famous white-sand oil being considered the best in the world. The gas-wells are the largest to be found. In 1901 the manufacture of glass was trebled, many capitalists coming to this State from Indiana, where they had shut down large factories because the gas in that region had given out. The oil line is extending toward Pennsylvania. Gas-wells are now in operation for 1,000 square miles around Charleston.

Perhaps the greatest source of wealth is the timber, there being 15,000 square miles of fine timber-land. Here are the largest mills in the world for hardwood, 100,000,000 feet of which was produced in 1901. The output of poplar was 150,000,000 feet, and of spruce 60,000,000 feet.

Although called the Mountain State, West Virginia's area is from 25 to 30 per cent. in fertile valleys, especially adapted to stock grazing and growing of small fruits. The largest orchard in the world is in Randolph County. It covers 1,740 acres, and contains 200,000 trees.

Production.—Wisconsin in 1900 raised 49,547,240 bushels of corn, of the value of \$16,350,589,

from 1,238,681 acres; 61,971,552 bushels of oats, of the value of \$14,253,457, from 1,936,611 acres; and 13,166,599 bushels of wheat, of the value of \$8,426,623, from 849,458 acres.

Legislative Session.—The Legislature made more laws than any of its predecessors. Nearly 600 bills were passed. A tax of 1 per cent. was imposed on legacies and inheritances devolved to children, parents, husbands, wives, brothers, sisters, or sons- or daughters-in-law, and 5 per cent. on all others, except gifts or bequests to charitable institutions. The age of compulsory school attendance was extended to fourteen years, from the former limit of thirteen years. One of the regents of the State University shall be a woman. Periodicals and books devoted to police news and stories of crime are prohibited. If the proposition is ratified by the people at the election of November, 1902, the State Superintendent of Schools will be an elective officer. It was made criminal for a telegraph operator or a messenger to divulge the contents of private messages or to neglect to deliver them. A homestead can be claimed against creditors in a house and a farm of 40 acres or a town lot of $\frac{1}{4}$ acre, not to exceed \$5,000 in value. A divorced person can not marry again within a year of the decree of divorce. Towns are empowered to impose a road tax of $\frac{1}{2}$ mill to $2\frac{1}{2}$ mills, and counties to maintain schools of agriculture and domestic economy. Physicians must be graduates of a medical college having a course of four terms, and must submit to a medical examination before being entitled to practise, and in addition to the schools of medicine already recognized, the practise of osteopathy is legalized—a measure which the regular physicians resisted vigorously. Pharmacists to obtain a license must be graduates of a school of pharmacy and have two years' experience in dispensing medicines, or, if not graduates, must have ten years' experience in a drug-store. A bill was passed to license architects. Bicycle side-paths may be constructed in any county, but in deference to the objections of farmers the town board can forbid their construction in any particular township. Any person who shall advise the commission of murder is punishable with one to three years' imprisonment when no attempt is made to commit the crime. An employee of a lumberman or a builder who does not get his wages when they are due can demand a promissory note. An act was passed to allow a widow the household furniture, wearing apparel, ornaments, and other family effects and also \$200 worth of personal property, irrespective of any waiver on her part or any provision for her in the husband's will. In an action brought by the State against a public officer for official misconduct, no person is excused from testifying on the ground that his evidence will incriminate himself, but his evidence can not be used against him except in an action for perjury. Breaking into a warehouse, shop, office, vessel, or railroad-car with felonious intent is made a felony. Any person desiring to alter his name can do so by filing with the county register of deeds the name he is known by, with his address, birth-place, and age, the reason for making the change, and the new name that he adopts. It is made a misdemeanor to mutilate horses by docking. To print advertisements or place any device on the United States flag is a misdemeanor. Cities are authorized to build or purchase light plants, as well as waterworks, and give bonds therefor, bearing not more than 5 per cent. interest, the majority of the electors having previously given their approval by ballot. To make or sell filled cheese or imitation butter is constituted a mis-

demeanor, though it is lawful to manufacture uncolored oleomargarin. For the protection of insect-destroying wild birds it was made unlawful for any person to kill any except game-birds, or to have them in his possession, living or dead, or their skins, plumage, nests, or eggs, the English sparrow, the crow, hawks, and owls being excepted. A person who has been adjudged insane can demand a reexamination, or a friend, relative, or guardian can demand it for him. Persons riding on street-cars who annoy passengers by boisterous conduct or foul or profane language are punishable as misdemeanants. To counterfeit a railroad ticket or pass is made a crime. No child under fourteen years of age can be employed in a factory or mine, nor, except during school vacation, in a mercantile establishment, or in messenger service or the like. The elements of agriculture are to be taught in district schools, and manual training and household economy in graded schools. When an insolvent debtor makes a voluntary assignment, the assignee must represent the creditors and protect them against fraudulent transfers, otherwise he is held liable. The use of coloring-matter or of chemical preservatives or antiseptics in sausages is prohibited. Foreign corporations to do business in Wisconsin must file their articles of incorporation and pay a license fee of \$1 for every \$1,000 worth of capital stock represented by their property and business in Wisconsin. Free employment offices are created in all cities of 30,000 inhabitants or more. A law making it bribery to give a railroad pass to any member of a political committee, any official, or any candidate for office, or for such person to receive one, will be submitted to the vote of the people in November, 1902. The sale of a stock of merchandise in bulk, or in any way except in the regular course of trade, shall be presumed to be fraudulent unless the seller or the buyer notifies the creditors beforehand. New powers are given to the fish and game wardens; also to the inspectors of noxious weeds, who can compel owners to clear such weeds from their lands.

A commission appointed to study the revision of taxation recommended an increase in the taxation of railroads, on the principle that they should pay on their property in the State a rate equal to that assessed on other property, real and personal. The Tax Commissioners have elaborated a plan for equalization of taxes, whereby corporations would have to bear the same relative burden that is imposed on private property, which will be laid before the next Legislature. This was one of the changes advocated by the immediate adherents of the Governor. The Legislature, however, rejected the bill to increase railroad taxes \$600,000.

The conflict between the Governor and his supporters and the majority of the Legislature became exceedingly bitter when the primary-election bill came up. The Republican party had pledged itself, in its last convention, as the Democratic party had done two years earlier, to the principle of the nomination of all candidates by the direct vote of the people at a primary election, in lieu of nominations by delegates through the machinery of caucuses and conventions. A group of men were believed to control the commonwealth by the selection of pliable nominees for State officers and members of the Legislature, which the conventions afterward ratified. The agitation for primary elections, where citizens can select the candidates of their party from among those who shall have been called out by the written request of a given percentage of the vote cast at the pre-

ceeding election, had been going on four years. The Legislature, however, defeated the bill that embodied the principles that had been approved by the party, and one was substituted which was said to be unworkable. Gov. La Follette vetoed this bill in a message in which he charged the opponents of the original measure with employing lobbyists who swarmed in both houses and tracked members to their hotels. The Senate, which lacked only two votes of a two-third majority to pass the bill over the Governor's veto, adopted a resolution repudiating the imputation of corruption conveyed in the veto message. The Governor vetoed a bill taxing mortgages, because it exempted a certain class of mortgages. He vetoed a bill to tax dogs, on the ground that farmers, to whom watch-dogs and sheep-dogs are a necessity, are already overtaxed, while corporations are taxed inadequately or escape taxation altogether. He vetoed a great many bills, most of them so carelessly drawn that they would not accomplish the object intended.

Under a new law, lobbyists are required to report their emoluments in fees and expenses. They made reports which were returned to them as insufficient.

WYOMING, a Northwestern State, admitted to the Union July 10, 1890; area, 97,800 square miles. Population in 1890, 60,705; in 1900, 92,531. Capital, Cheyenne.

Government.—The following were the State officers during the year: Governor, De Forest Richards; Secretary of State, Fennimore Chatterton; Treasurer, G. E. Abbott; Auditor, Le Roy Grant; Superintendent of Public Instruction, T. T. Tynan; Attorney-General, J. A. Van Orsdel; Adjutant-General, Frank A. Stitzer. Supreme Court: Chief Justice, C. N. Potter, Republican; Associate Justices, Samuel T. Corn, Democrat, and Jesse Knight, Republican; Clerk, R. C. Morris, Republican.

Finances.—The Treasurer's statement of Sept. 30, 1901, shows a net balance in the general fund, after allowing for outstanding warrants, of \$31,570.71, a net gain of \$9,266.28 over 1900. The Treasurer's cash statement is as follows: Cash balance Oct. 1, 1901, \$218,706.40; receipts from all sources, \$413,863.68; disbursements, \$386,876.83. This shows an increase in the cash balance of \$47,021.32 over the cash balance of 1900; also a gain in disbursements during the year of \$102,324.88.

Every department of State, county, municipal, and school government in the State is on a cash basis. The bank deposits amount to \$6,250,000, giving Wyoming a per capita deposit of approximately \$68.

Valuation and Taxation.—The Treasurer's report shows the total valuation of property within the State in 1901 to be \$39,581,216.55; number of cattle, 402,574, valuation \$6,902,311; number of sheep, 2,848,711, valuation \$5,737,219.50. The taxes levied in 1901 were as follow: State, \$256,255; county, \$326,996; general school, \$53,450; interest on county bonds, \$79,278; library tax, \$4,123; judgment and State deficiency, \$8,229; special school, \$168,445; payment of school bond interest, \$22,120; payment of county bonds, \$28,657; total, \$947,556.

State Lands.—The rentals for State lands increased from \$79,070 in 1900 to \$86,618 in 1901. The receipts from sale of State lands, given by Congress, increased from \$6,856 in 1900 to \$22,095 in 1901. The State owns 3,001,905.48 acres of school sections. Of this amount more than 1,250,000 acres have been leased.

Mining.—Several large copper-mines were discovered in Wyoming in 1901. In one of these,

the New Rambler, in the southeast portion, platinum and iridium were discovered. The output of copper for 1901 from the State was valued at \$1,500,000; iron, \$300,000; gold, \$500,000; silver, \$52,000; platinum, \$5,000; oil, \$100,000; coal, \$5,490,621.25. Five new coal-mines were opened this year, making 25 mines, with an output of over 600 tons of coal a day. For the first time in the history of the State the output for a year amounted to more than 4,000,000 tons.

Early in the year the richest illuminating-oil ever found in the world was discovered in the southwest corner of the State. The oil is 97 per cent. pure. A dozen drills are now being driven in the district. Oil discoveries near Lander and Casper and in Big Horn County created great excitement, and in the spring hundreds of wells will be bored.

Legislative Session.—The Legislature convened on Jan. 8, and adjourned on Feb. 16. Among the laws enacted were the following:

Providing that no divorce shall be granted unless the plaintiff shall have resided in the State for one year immediately preceding the time of filing the petition.

For teaching in the public schools humane treatment of animals.

For payment of bounties on predatory wild animals, and appropriating \$40,000 therefor.

For the permanent location of public institutions in the State, and that the question shall be submitted to a vote of the people in 1904.

For the protection of song and other birds.

Changing the name of the Stinkingwater river to the Shoshone.

Providing for the creation of the office of State geologist.

For the establishment of a State board of health.

For the repeal of laws licensing gambling, to become effective Feb. 26, 1902.

For levying a tax on railroad-cars owned by other corporations than a railroad company.

For the refunding of county bonds.

For the publication of a State pamphlet descriptive of Wyoming.

For a new legislative representation according to the population as returned by the census of 1900. Under this provision the legislative membership will be increased to 23 in the Senate and 49 in the House.

UNIVERSALISTS. The trustees of the Universalist General Convention reported at its meeting in October the following summary of the statistics of the denomination for Dec. 31, 1900: Number of parishes, 983; of families, 51,174; of church-members, 52,873; of members of Sunday-schools, 57,529; value of parish property, less debts, \$9,933,453; amount of parish expenses and contributions, \$1,264,555. Several new parishes had been organized and received into fellowship, although, on account of the dropping of inactive and moribund parishes by several of the State conventions, the whole number of parishes was apparently less than in the previous year. Fourteen new church buildings had been erected or purchased. The year's receipts for the funds and various interests of the convention, including several bequests and large gifts, had been \$72,131; the Twentieth Century fund of \$100,000 had been completed, and the amount contemplated for it even promised to be exceeded.

The General Convention met in Buffalo, N. Y., Oct. 17. The Hon. Charles L. Hutchinson was chosen president. The general superintendent reported concerning his labors during about three years, in the course of which he had visited and

held services in 26 States, the District of Columbia, and the provinces of Ontario, Quebec, and Nova Scotia, attending State conventions, appointing superintendents or missionaries, visiting schools and colleges, etc. His office was continued. The value of the work of the Southern missionary was recognized, and that office was likewise continued, to be under the control of the general superintendent. A committee of five, the general superintendent being one of the number, was constituted, to be appointed biennially to confer with the like committee of the American Unitarian Association, with the understanding that the committee should not have or exercise joint missionary functions; that it should be its duty only to consider cases where there might be a conflict of interest or duplications of missionary efforts, or where friction had arisen or was likely to arise, between the representatives of the two bodies, and that it should endeavor to promote harmony by wise and judicious Christian counsel, and in case of failure, should report to the Board of Trustees. The mission in Japan, which is supported by special gifts, and only to a small extent out of the general funds, was commended. In view of the year of the next biennial session of the General Convention (1903) being the one hundredth anniversary of the adoption at Winchester, N. H., of the Universalist profession of faith, provision was directed to be made for a special observance of the occasion in connection with the meeting; and the observance of the centennial was recommended to the churches, Young Peoples' Unions, and Sunday-schools throughout the country. The thirty-second annual meeting of the Woman's Centenary Association was held in Detroit, Mich., May 29, Mrs. C. A. Quinby presiding. The treasurer reported that the receipts for the year had been \$7,329, and the expenditures \$4,170. Of the balance of \$3,159, \$2,600 went into the permanent fund, and was not available for general purposes. The permanent fund had been largely increased during the year by life memberships and special gifts, and now amounted to \$19,478. More than \$600 had been contributed toward the \$1,000 which had been pledged to the Twentieth Century fund.

URUGUAY, a republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 19 members, elected in the departments which they represent by electoral colleges for a term of six years, and a House of Representatives containing 69 members, elected for three years by the direct votes of all adult male citizens who can read and write. The President of the republic is elected for four years. Juan Lindolfo Cuestas is President for the term ending March 1, 1903, and José Battle y Ordoñez is Vice-President. The Cabinet at the beginning of 1901 was composed as follows: Minister of War and Marine, Gen. Pedro Callorda; Minister of the Interior and Justice, Eduardo MacEachen; Minister of Agriculture, Industry, Education, and Public Works, Gregorio L. Rodriguez; Minister of Finance, Dr. Anacleto Dufour y Alvarez; Minister of Foreign Affairs and Worship, Dr. Manuel Herrero y Espinosa.

Area and Population.—The area of Uruguay is 72,110 square miles. The population of Montevideo is estimated at 266,000. In the other departments a census was taken on March 1, 1900, which makes their population 629,364, which, added to that of Montevideo, gives a total of 895,364; but allowance being made for imperfect enumeration the population of the republic is estimated at 900,600. There were 90,199 foreign-

ers enumerated, and if their average proportion is the same throughout the republic they exceed 135,000. The number of immigrants landed at Montevideo in 1900 was 8,892 and the number of persons who sailed away was 6,705, against 9,006 emigrants and 5,830 emigrants in 1899. Among the immigrants arriving in 1900 were 3,211 Italians, 2,815 Spaniards, 685 Brazilians, 451 French, 290 Germans, and 252 British. The number of marriages registered in 1899 was 4,463; of births, 31,613; of deaths, 12,343; excess of births, 19,270.

Finances.—The estimate of revenue for the fiscal year 1900 was \$16,124,325, of which \$10,200,000 are derived from customs, \$1,850,000 from the property tax, \$940,000 from trade licenses, \$258,866 from additional duties, \$530,000 from the factory tax, \$500,000 from internal-revenue duties, \$300,000 from stamps, \$270,000 from bank profits, \$340,000 from posts and telegraphs, and \$935,459 from other sources. The expenditure for 1901 was estimated at the same amount, \$363,904 being for the Congress, \$65,976 for the President, \$137,669 for the Ministry of Foreign Affairs, \$2,270,105 for the Ministry of the Interior, \$958,658 for the Ministry of Finance, \$1,126,038 for the Ministry of Agriculture, Industry, Education, and Public Works, \$1,745,460 for the Ministry of War and Marine, \$357,091 for courts of law, and \$9,099,382 for national obligations. The final account of expenditures has not been published for several years. There has been increased expenditure on the army, officially stated to number 3,504 officers and men, besides 3,200 armed police and 20,000 militia. The effect of new taxes was to cause a decline in the revenue.

The foreign debt on Jan. 1, 1900, was stated to be \$100,161,606; international obligations, \$3,996,025; internal debt, \$23,101,898; total debt, \$127,159,529. On Jan. 1, 1901, the foreign debt was \$99,660,680; international debts, \$3,656,275; unified internal debt, \$5,451,600; guaranteed debts, \$3,576,700; liquidation debt, \$1,003,948; loan of 1897, \$7,304,600; treasury bills, \$4,849,950; total, \$125,502,753. The cost of the public debt for 1900 was \$4,957,722 for interest and \$165,776 for amortization; total, \$6,144,498.

The Army and Navy.—The permanent armed force provided for in the budget of 1900 was 1 regiment of field-artillery, consisting of 250 men; 4 battalions of rifles, of 400 men each; 5 regiments of cavalry, of which 3 contain 300 and 2 contain 250 men; the President's escort of 50 men; 60 men in the garrison of Fort Artigas; 1 company of train, containing 100 men; and 40 cadets and 31 men in the military academy. The infantry weapon is the Mauser rifle of the model of 1893, having a caliber of 7 millimeters. There are about 3,200 men in the police, and 96,997 men are enrolled in the National Guard. The naval force in 1900 consisted of 2 gunboats and 2 armed steamers having 22 officers and 162 sailors in their crews.

Commerce and Production.—The principal business in Uruguay is raising live stock. In 1898 there were 363,511 horses, 13,181 mules, 4,826,675 cattle, 15,536,889 sheep, 34,881 goats, and 3,972 hogs, the whole valued at \$73,038,000. The number of cattle slaughtered in 1899 was 821,600; in 1900, 707,700. The exports of wool in 1899 were 39,320 metric tons, against 41,010 tons in 1898; of wheat, 62,763 tons, against 77,230 tons in 1898; of wheat-flour, 20,726 tons, against 11,296 tons; of corn, 10,926 tons, against 125,758 tons. The crop of wheat in 1900 on 377,988 hectares sown was estimated at 187,553 metric tons. There were 824 vineyards in 1898 with 15,243,268

vines planted. Agriculture has been extended by immigrant settlers who obtain land on easy terms from land companies. There were 21,045 farmers in 1900, of whom 10,853 owned their farms. In the northern departments of Uruguay gold-mines are worked, chiefly in Rivera, where 74,708 grams of gold were obtained in 1898, and an average of 95,447 grams since 1885.

The value of imports of merchandise in 1899 was \$25,551,788, and of exports \$36,574,164. The imports of articles of food and drink were \$7,135,859 in value; of raw materials and machinery, \$6,875,652; of textile goods, \$5,042,176; of clothing, \$1,308,547; of tobacco, \$224,434; of other merchandise, \$4,965,120. The exports of live animals were valued at \$260,006; of animal products, \$35,539,134; of agricultural products, \$2,354,919; of other products, \$420,105. The exports of wool in 1898 were \$10,716,158 in value; of jerked beef, \$5,474,856; of hides and skins, \$6,300,344; of beef extract, \$1,447,185; of tallow, \$1,255,493. In 1898 the imports of merchandise were \$24,784,360, and of coin \$7,095,381; exports of merchandise were \$30,276,916, and of coin \$6,060,576. The special imports in 1900 were \$24,000,000 in value; special exports, \$29,400,000. The principal exports were hides and leather for \$8,174,000; wool, \$8,025,000; meat, \$6,005,000; tallow, \$1,662,000; wheat, \$1,546,000; meat extract, \$1,319,000; animals, \$534,000. The commerce was distributed among various countries as shown in the following table, giving the values of the imports from and the exports to each country:

COUNTRIES.	Imports.	Exports.
Great Britain.....	\$6,337,000	\$1,956,000
Brazil.....	1,269,000	7,598,000
France.....	1,982,000	4,791,000
Belgium.....	1,558,000	5,215,000
Germany.....	3,500,000	2,777,000
Argentine Republic.....	2,700,000	2,825,000
United States.....	2,183,000	1,672,000
Italy.....	2,212,000	725,000
Spain.....	1,824,000	588,000
Chili.....	111,000	490,000
Cuba.....	116,000	455,000
Paraguay.....	169,000	.....
Portugal.....	14,000	153,000
Other countries.....	3,000	143,000
Total.....	\$23,978,000	\$29,388,000

Owing to the fall in the price of wool a considerable part of the wool produced in 1899, estimated at a quarter, was held back for higher prices. This caused a decrease of about \$3,000,000 in the Government receipts from export duties and made the total value of exports less than it would have been if this temporary cause of disturbance had not been in operation. In 1900 the wool-clip was promptly exported, though at lower prices, but a failure of the wheat-crop caused a great shrinkage in the exports of agricultural produce. The total trade was lower than in any year since 1897, which was a year of civil war. A depression has existed for several years, which has been attributed in a large measure to the system of excessive taxes and duties and to official regulation of commerce and industry. The high protective tariff has helped to build up some industries, but in general commercial activity there has been a decline. In 1901 the wool-clip was above the average and prices were better. Its value was estimated at \$12,000,000. The wheat-harvest promised to be abundant, and was estimated at \$10,000,000. The number of cattle slaughtered was almost double that of 1900.

Navigation.—The number of vessels entered at the port of Montevideo during 1899, including coasting and river vessels, was 3,974, of 4,105,102

tons; cleared, 4,048, of 4,167,617 tons; entered at other ports, 13,963, of 7,203,955 tons; cleared, 13,426, of 7,046,075 tons. In 1898 the number of vessels entered at Montevideo in the ocean trade was 969, of 1,945,884 tons; cleared, 911, of 1,888,325 tons.

Railroads and Telegraphs.—The railroads of Uruguay have a length of 1,080 miles, and there are 146 miles of street-railroads. A new line completed in 1901 passes through one of the richest parts of Uruguay and forms a new and shorter route to Buenos Ayres.

The post-office in 1899 forwarded 10,311,256 pieces of mail-matter in the internal and 8,176,255 pieces in the external service; receipts, 1,875,041 francs; expenses, 1,938,138 francs.

The length of telegraph-lines is 4,525 miles, including 995 miles belonging to railroads. The number of messages in 1898 was 346,359.

Political Affairs.—President Cuestas, a leader of the Colorado party, came into office after the assassination of Idiarte Borda on Aug. 25, 1897. The administration of government since the civil war, which cost the country \$13,000,000, is admitted to have been honest and economical. Civil rights have been respected, and the financial obligations of the nation have been met with punctuality. On the other hand, public indebtedness has increased and taxation has steadily risen. While incipient manufacturing industries have been encouraged, the pastoral and the rising agricultural industries of the country have suffered from a prolonged depression, which has produced a reaction against the Government. President Cuestas has refrained from official interference in elections, adhering to the promises made to the revolutionary leaders in 1897. In the elections to fill 6 vacancies in the Senate 5 members of the Blanco party were elected just before the beginning of 1901, placing the Colorados, who have controlled Uruguayan affairs since 1865, actually in the minority, since the 2 Constitucionales, who with 8 Blancos and 9 Colorados composed the Senate, voted usually with the Blancos. On taking the presidency Señor Cuestas assured the Blanco party that the administration would be neutral, and he has since had the support of that party as well as that of the majority of the Colorados, the only opposition coming from a section of the Colorado party composed of partisans of the former administrations of Borda and Herrera. When the Senate was convened Dr. Juan Carlos Blanco, a Colorado, was elected president as the administration candidate. The president of the Senate, who is elected for twelve months, is *ex-officio* Vice-President.

While customs declined in 1900, all the internal revenues showed an increased yield. The Government out of its previous surplus revenue contributed to the fund for the construction of the new port of Montevideo, which was begun by French engineers on July 18, 1901, when that fund had reached \$1,000,000. The work had been projected for sixty-eight years, and was at last undertaken with national resources alone, without an appeal to foreign capital, and also without imposing a burden on the people. A Latin-American Scientific Congress was held at Montevideo in March, at which a resolution was adopted in favor of compulsory arbitration between South American republics, Chile alone dissenting. In April the Government issued an order prohibiting the landing of Jesuit and other clerical immigrants from Europe. A commission was appointed by the Government to alter the customs tariff and to diminish and distribute more equally among the population the heavy taxes. A re-

form of the entire fiscal system of Uruguay is planned, and in this purpose the administration had the support of almost the entire nation. The harbor works are expected to regain for Montevideo its lost position as the chief port on the southeast coast of South America. After the first surveys were made nearly three-quarters of a century ago there came a period of internal struggles and conflicts which rendered impossible any continued effort to accomplish the work, which was beyond the limits of the commerce and revenue of the republic. Later administrations which studied the matter deemed it necessary to call in the assistance of foreign capital. This proved a stumbling-block, and at last the Cuestas Government conceived the idea of forming a fund from home capital, which was done with entire success. The port works will require from six to eight years for their completion. The price at which the French contractors undertake to build them is \$9,916,336 in gold, the Government furnishing dredging material to an amount not to exceed 4,900,000 francs. The funds are provided by special import and export duties, yielding about \$1,000,000 in gold per annum. On the guarantee of these duties port bonds are issued, which the French syndicate agrees to take at current rates.

A violent conflict between the two political par-

ties seemed likely to occur on the occasion of the general election in November. Negotiations were carried on to bring about an electoral agreement, such as was made in 1897, whereby each party sent to Congress a proportionate number of Deputies. These negotiations failed, and in September the situation was strained. On Oct. 24 the Minister of Industry and Commerce resigned. The Colorados and Blancos still strove to arrive at an accord which would avert disorders, and on the eve of the election an agreement was definitely arranged in accordance with which the composition of the Chambers was to remain substantially as it was, insuring the maintenance of the existing administration and averting the possibility of a renewal of the civil war. The election on Nov. 24 passed off in perfect tranquillity. Party contention having been suppressed by the electoral accord, the majority of the electors abstained from voting. Half of the Deputies were reelected, and the only alteration in the political situation was to add strength to the support given by Congress and the nation to President Cuestas and his administration. The new Chamber did not meet till Feb. 15, 1902. Meanwhile the old Chamber continued its deliberations, having been convened to an extraordinary session.

UTAH. (See under UNITED STATES.)

V

VENEZUELA, a federal republic in South America. The legislative power is vested in the Congress, consisting of a Senate of 27 members, 3 from each state and the federal district, elected for four years by the state legislatures, and a House of Representatives of 52 members, 1 to 35,000 of population, elected for the same period by popular vote. The President is elected for two years, and is ineligible for the succeeding term. Gen. Cipriano Castro was appointed provisional President on Oct. 23, 1899. The Cabinet appointed on July 30, 1900, was composed as follows: Minister of the Interior, Dr. Rafael Cabrera Malo; Minister of Foreign Affairs, Dr. Eduardo Blanco; Minister of War and Marine, Gen. J. Pulido; Minister of the Treasury, Tello Mendoza; Minister of Public Instruction, Dr. Felix Quintero; Minister of Fomento, Gen. Ramon Ayala; Minister of Public Works, Juan Otañez.

Area and Population.—The area of Venezuela is estimated at 593,943 square miles. The population according to the census of 1891 was 2,323,527. In 1900 it was estimated at 2,444,816. There were 326,000 Indians, of whom 240,000 were civilized. The number of foreigners was 44,129. Efforts have been made recently to settle foreign agriculturists on the unoccupied lands of the interior. The Federal Government will grant to settlers 2½ acres for each member of the family. Education was made compulsory in 1870, and in 1900 there were 1,450 federal elementary schools and 150 state schools. But at the last census only 399,986 persons, 205,277 males and 194,709 females, could read, and the total number of pupils in all the schools was but 54,553.

Finances.—The revenue in 1898 was 33,429,826 bolivars, or francs, and expenditure 45,542,524 bolivars. Under a contract made for five years in 1897 the Bank of Venezuela collects and disburses the revenue, receiving a commission of 2 per cent. on all collections and payments. In the budget for the financial year 1902 the amount of the revenue is calculated at 37,000,000 bolivars, of which 21,330,000 bolivars come from customs,

650,000 bolivars from stamps and patents, 65,822 bolivars from territorial revenue, 2,860,000 bolivars from salt, 130,000 bolivars from registration, 700,000 bolivars from consular fees, 400,000 bolivars from Caracas water-rates, 800,000 bolivars from Puerto Cabello, 4,560,178 bolivars from education, 2,159,791 bolivars from posts, telegraphs, and telephones, 3,312,200 bolivars from transit dues, and 32,000 bolivars from mines. The expenses are estimated at 15,239,332 bolivars for administration, 11,425,791 bolivars for costs of *régie* and collection, 2,484,108 bolivars for the internal debt, 1,067,601 bolivars for the external debt, 1,500,000 bolivars for the Venezuelan debt, 497,064 bolivars for foreign creditors, 541,895 bolivars for public works, and 4,244,209 bolivars for subsidies; total, 37,000,000 bolivars.

The foreign debt of Venezuela was inherited from the federal republic of Colombia that was dissolved in 1830. It was incurred in the war of independence, and on July 30, 1900, the amount outstanding was £2,638,200, not including £204,460 of unpaid interest. The internal debt at the beginning of 1899 was 79,783,511 bolivars. The total debt on July 1, 1901, was stated to be 194,202,343 bolivars, of which 11,119 bolivars were what remained of the former national consolidated 5-per-cent. debt and 13,092 bolivars the internal debt of 1894; 59,808,671 bolivars paying 6 per cent. were the internal debt of April 14, 1896; 3,544,342 bolivars were warrants paying 1 per cent. a month; 66,614,550 bolivars were the external 3-per-cent. debt; 47,200,000 bolivars were the Venezuelan loan of 1896 paying 5 per cent.; 6,713,029 bolivars were French, German, and Spanish debt at 3 per cent.; 10,175,199 bolivars the loan for the Caracas aqueduct; 115,638 bolivars debt from the revolution; and 6,703 bolivars floating debt.

Commerce and Production.—In the settled region near the coast and the Orinoco river sugar, coffee, cacao, and grain are cultivated; in the savannas farther back cattle are pastured in great herds; and from the forests of the interior

are brought down rubber, tonga-beans, copaiba, and vanilla. Nearly 200,000 acres are planted to coffee, and about 52,000 tons are annually exported. The sugar plantations are not so prosperous as when the importation of sugar was prohibited, but efforts have been made to introduce modern methods and machinery in this and other branches of agriculture. In the gold-fields of the Yuruari territory 42,315 ounces were produced in 1899, against 39,500 ounces in 1898, 43,500 ounces in 1897, and 60,674 ounces in 1896. In 1884, when the alluvial deposits were first opened, 233,935 ounces were produced; in 1885, 172,037 ounces; in 1886, 217,135 ounces. Gold-mines at Callio were formerly very productive. The district was deserted after great amounts of French, American, and German capital were invested there, the revolution by which Guzman Blanco fell having made the property insecure. Silver ore is abundant in the states of Los Andes, Lara, and Bermudez. Copper exists in great quantities, and asphalt, sulfur, and coal are mined and petroleum, lead, and tin are found. The Government works salt-mines in different localities. Iron is mined by an American company at Imataca. Natives dive for pearls in the waters off the coast surrounding Margarita and other small islands, and the annual production is valued at \$100,000. In 1900 a concession was granted of the exclusive right to fish for pearls, sponges, and tortoise-shell on a commercial scale without prejudice to the rights of the native fishermen, the Government to receive 10 per cent. of the profits. Coal exists in great deposits, but it is not mined. Petroleum also is to be found in large quantities.

The trade of the United States with Venezuela has grown faster than the French or German trade. In 1899 the exports from Venezuela to the United States were \$5,669,900; to France, \$7,604,000; to Germany, \$2,237,200; to Great Britain, \$222,000. The imports from the United States were \$2,641,400; from Great Britain, \$2,407,200; from Germany, \$952,000; from France, \$636,900.

The total value of imports in 1898 was 42,797,500 bolivars, and of exports 74,497,550 bolivars. Coffee is exported to France, the United States, and Germany; cacao to France, Spain, and Germany; hides to the United States. The export of cacao from La Guayra, Puerto Cabello, Ciudad Bolivar, and Maracaibo in 1899 was 5,828,784 kilograms; of hides, 6,956,285 kilograms; of coffee, 50,931,233 kilograms; of goat and deer skins, 256,802 kilograms; of rubber from Ciudad Bolivar, 826,471 kilograms; of copra from Puerto Cabello, 202,685 kilograms; of tobacco from Ciudad Bolivar, 99,612 kilograms; of cattle from that port, 9,860 head; and from Maracaibo 6,506,217 kilograms of fustic, 1,766,180 kilograms of divi-divi, 12,778 kilograms of cinchona, 42,732 kilograms of copaiba, 39,261 kilograms of fish-sounds, 396,548 kilograms of sugar, and 79,330 kilograms of asphalt. The principal imports are textile goods, hardware, machinery, provisions, flour, coal, kerosene, and timber. Manufactures are imported from Great Britain, the United States, and Germany, articles of food from the United States and South American countries.

Navigation.—In 1899 there visited Puerto Cabello 291 vessels; at La Guayra 217 were entered and 371 cleared with cargoes; at Ciudad Bolivar 80, of 25,973 tons, were entered and 83, of 27,734 tons, cleared; at Maracaibo 356, of 25,306 tons, were entered.

The merchant marine in 1900 was composed of 18 sailing vessels, of 50 tons and over, having a tonnage of 2,836, and 12 steamers, of 2,567 tons.

Railroads and Telegraphs.—There were 529 miles of railroad completed in 1899. A contract was made for the construction of a line between Puerto Cabello and Yaritagua. A company in accordance with an agreement made in 1896 has placed steamboats on Lake Valencia in connection with branch railroads and tramways.

The telegraphs had a length of 3,882 miles in 1899.

The Army.—The regular army in 1900 numbered 3,600 men garrisoned in 20 towns and in the Government vessels, of which there are 3 steamers, 2 sailing vessels, and some small gunboats. Every Venezuelan belongs to the militia, and in the late civil war about 60,000 men were under arms.

Political Affairs.—In the early months of 1901 a dispute over the rights of rival American companies to an asphalt lake near the mouth of the Orinoco river led to a controversy between the Venezuelan Government and the American minister at Caracas, Frank B. Loomis, who was recalled to explain the misunderstanding and was eventually succeeded by Herbert W. Bowen. The company which had been working the pitch lake was informed by the Venezuelan Government that its concession did not include the lake, which had been leased to another company. The older company refused to give up the property, and the United States minister defended its claims, which were only faulty through a false description and an erroneous Government survey, as the concession which had been sought, and obtained from the Venezuelan Government was intended to cover the lake. A similar false description has been the ground on which concessions have been annulled before by the Venezuelan Government, as in the case of the Orinoco Trading Company. The valuable Imataca iron-mine was for a long time closed because the survey was at fault. President Castro before proceeding to dispossess the older asphalt company for the benefit of the younger one laid the matter before the Venezuelan courts. Mr. Loomis, however, insisted on the equities in the case, and the rich and powerful asphalt company armed its employees, declaring that it would defend its property by force, and appealed not only to the United States Government, but to President Castro's political enemies in Venezuela. Revolutionary disturbances occurred in the vicinity of the pitch lake. American gunboats were sent to the coast to protect American lives and property, if necessary. When the Venezuelan authorities threatened to seize the arms of the asphalt company the United States Government requested that no arbitrary action be taken pending a judicial decision. The court to which the New York and Bermudez Company had gone decided against it and in favor of the new claimants, the Warner and Quinlan Company. It was to carry out this decree that the Venezuelan Government intended to oust the parties in possession in spite of their threatened armed resistance. At the request of the American Government, President Castro agreed to wait till the matter could be adjudicated by a higher court; but he requested the recall of Minister Loomis.

The Venezuelan Government endeavored to float a loan in the United States for the purpose of consolidating the public debt. A loan of \$30,000,000 was desired, of which \$5,000,000 would be deposited in the treasury and \$25,000,000 be employed in redeeming all Venezuelan debts, the new debt to bear 6 per cent. interest and to be secured on the customs receipts of some of the ports. Negotiations were first opened with Ger-

man capitalists, who demanded the receipts of certain of the principal ports, to which the Venezuelan Government would not agree. American bankers also wanted ample security, and they too declined when President Castro offered the receipts of 3 small custom-houses which would not amount to more than half of the interest on the loan. On April 9 a new Cabinet was appointed, as follows: Minister of the Interior, J. A. Velutimi; Minister of Foreign Affairs, Dr. Eduardo Blanco; Minister of Finance, Ramon Mello Mendoza; Minister of War, Gen. Pulido; Minister of Public Instruction, Dr. Felix Quintero; Minister of Public Works, Juan Otañez; Minister of Fomento, Felipe Arrocha Gallegos.

Revolutionary troubles in the early part of the year took place at Carupano, which was held for a time by insurgents, and they threatened Ciudad Bolívar, but were defeated before the end of January. President Castro, like all his predecessors, has had to contend with political aspirants who would resort to rebellion to gain supreme power. He himself was a successful revolutionist. The insurrection in Colombia involved Venezuela in a serious civil war. Venezuelans who were in sympathy with the Colombian Liberals, including officials and men of high rank in the army, not only allowed the Colombian revolutionists to use the border districts and ports of Venezuela as a base, but aided them actively and joined in the invasion of Colombia. Venezuelan Conservatives were in like manner aided by Colombians to start a rebellion against the Government of Gen. Castro. Dr. Rangel Gardiras and other Venezuelan exiles from Colombia with a force of several thousand armed men appeared before the end of July in the neighborhood of the frontier town of San Antonio de Tachira. President Castro proclaimed martial law throughout Venezuela, and despatched a large force of troops to the border. He resolved to treat the violation of the frontier as the act of the Colombian Government, as in like manner the Colombian President was inclined to hold him responsible for the invasion of Colombia from Venezuelan territory. At a Cabinet meeting it was decided to hand Dr. Rico, the Colombian minister, his passports, but he took his departure without waiting for notice. Gen. Pulido, the Minister of War, who was the leader of an important party, disapproved this procedure. He wanted to treat the disturbers, not as Colombian invaders, but as Venezuelan insurgents, as they were led by Venezuelan revolutionists and joined by a great many Venezuelans. Gen. Pulido resigned his portfolio, and on Aug. 1 Gen. Ramon Guerra was appointed Minister of War. When the Government troops were defeated in the first encounter at Cristobal risings followed at various points in the interior. Subsequently reinforcements were brought up, and a defeat was inflicted on the revolutionists and Colombians in San Cristobal. President Castro announced that he did not regard the invasion by Colombian troops as an international attack by the people of Colombia, but as the work of the Conservative Government of Colombia against the majesty of the Venezuelan people. The first invading force numbered about 6,000 men with the revolutionists who joined it on Venezuelan soil. After it was driven over the border a second force numbering 2,000 men crossed the frontier, but was easily routed. The Venezuelan Government massed 10,000 men on the frontier, and the Colombian Government collected a large force on its side of the boundary. For many weeks these large bodies of troops faced each other in an attitude of observation. President Castro sent out a memoran-

dum explaining the position that Venezuela took which was nothing less than a threat of war.

President Castro's Government became involved in difficulties with several governments besides that of the United States. An attempt was made to arrange a long-standing difference with France. Diplomatic relations with that country were broken off in consequence of the action of the Government of Venezuela in 1895 in consequence of a confidential memorandum which the French *chargé d'affaires* had presented to his colleagues proposing the combined diplomatic action of all their governments to exact from Venezuela the payment of the claims of all foreigners who had suffered losses in Venezuelan revolutions. When this document came to light in an Italian greenbook the Venezuelan Government handed his passports to the French representative and dismissed the Belgian representative at the same time, as he also was involved in the plan to use minatory diplomatic pressure to supersede the action of Venezuelan courts of justice. In 1896 Gen. Juan Pietri was sent on a special mission to Paris to restore diplomatic relations, the French Government having, instead of sending another representative to Caracas, given his passports to the Venezuelan representative in Paris. A protocol was drawn up in 1897, but the conditions were rejected by the Venezuelan Congress. Emilio Castro was sent later, and he could obtain no better conditions than the immediate settlement of all the French claims or at least the submission of them to arbitration. In September, 1901, Cecilio Castro was sent to Paris on a third mission to induce France to resume diplomatic relations. Smuggling in the Gulf of Paria between the British island of Trinidad and the Venezuelan coast has become more frequent since the duties on cigars and other articles have been raised to such high figures as to make it exceedingly profitable. The island of Patos, which the Venezuelan Government regards as its own territory, is claimed as British by some of the colonials of Trinidad. In January a Venezuelan armed force landed on the island and arrested and carried off to a Venezuelan port a party of British subjects who were accused of being engaged in a filibustering expedition. The British claim that Patos was a part of the property of the Church which was transferred with the island by Spain. On Aug. 23 a Venezuelan gunboat seized a British vessel lying at Patos and a quantity of goods that had been landed, which were sold as contraband. Germany has from time to time pressed private claims arising out of Venezuelan revolutions. In April a German war-vessel cruising about the island of Margarita and making surveys gave rise to the rumor that Germany was seeking a coaling-station in the Caribbean Sea. The German Government semiofficially disclaimed any such intention. Italy has some old claims which have been put forward diplomatically at various times without result. The German claims are the largest, and new ones arose out of the action of the authorities toward German merchants in the parts of Venezuela that were the principal theater of the disturbances of 1901. The bulk of the coffee trade of Maracaibo is carried on by large German houses, and there are many German as well as French traders in all the Venezuelan cities. In October the crew of a German war-vessel became involved in a street fight in Porto Cabello, and the populace of the town joined the police in attacking the strangers, who received many wounds and bruises before they found safety on board their vessel. A German merchant was reported to have been subjected to duress and extortion

by officials in Caracas, and for this Germany demanded reparation, which was given by President Castro. Other cases occurred. Finally Germany decided to send cruisers to the coast of Venezuela to emphasize the demands of the German *chargé d'affaires* for the settlement of all claims and questions in dispute. The threatened alternative was the seizure of a Venezuelan custom-house to be held until the amount of the claims had been collected in duties. Before carrying out the demonstration the German ambassador at Washington gave assurances that his Government had no intention of acquiring dominion over any Venezuelan territory. On Sept. 4 two expeditions, largely composed of Venezuelans, were allowed to go out from Maracaibo against the Colombian port of Rio Hacha, on the peninsula of Goajira. One, consisting of 1,000 men, sailed in a transport steamer under command of Gen. Davila and was escorted by the 4 gunboats of the Venezuelan navy under Gen. Echeverría. The other, 500 strong, marched overland. While the Colombian forces were engaged with the insurgents at Boca del Toro, on the border of Panama, the revolutionists who planned to make this stroke on the opposite frontier with the aid of their Venezuelan allies hoped to win at once by dividing the Colombian army. The Venezuelan gunboats began the attack with a cannonade, and the troops made a successful landing. The more seasoned Government troops of Colombia, although smaller in number, gained the ultimate victory (see COLOMBIA). The Venezuelans who were not captured with Echeverría retreated with Davila, and suffered severe privations and losses among the unfriendly Indian population of Goajira. President Castro threatened to avenge the insult to the honor of Venezuela implied in the invasion of the country by an alleged Colombian force, and President Marroquin in equally menacing tones demanded an explanation of the open assistance given by the Venezuelan authorities to Colombian revolutionists. When Venezuela posted 10,000 and Colombia 16,000 troops on the frontier the United States Government offered to mediate. The Colombian Government accepted, but President Castro declared that it would be against the dignity of Venezuela to accept the offices of a mediator unless Colombia first gave a satisfactory explanation of the invasion of Tachira. The president of the Pan-American Congress at Mexico proposed that the difference be settled by arbitration, and this proposition Colombia accepted unconditionally. President Castro accepted with the condition that Colombia make reparation and pay damages for the invasion of Tachira. Chile offered to mediate, and this offer was accepted by Colombia, but Venezuela insisted on the conditions laid down in the answer to the Congress at the city of Mexico.

The Nationalist party planned no general revolutionary movement against Castro until the unpopularity of his attitude toward Colombia, which was likely to involve the country in a war, became apparent. When an insurrection in Venezuela was seen to be imminent President Castro not only proceeded to arrest the leaders of the hostile factions who did not flee to foreign soil, but ordered a general conscription for the army, as if in preparation for the war with Colombia, although he could not legally make war without the consent of Congress, which would not meet till February, 1902. Forced war contributions were exacted also from bankers and merchants, for the treasury was empty. These acts strengthened the resolve of his enemies to undertake a revolutionary enterprise for his overthrow and

alienated prominent politicians and members of his Government who had acted with him until his course toward Colombia compelled them to resume their independence. In the western districts all laborers between the ages of sixteen and sixty were impressed into the army. The Rotunda prison at Caracas was crowded with prominent citizens who were arrested as enemies of the country. Some belonged to the revolutionary Nationalist party, many to the Conservative Opposition, and not a few to the Liberal party which had placed Cipriano Castro in power. Most of the newspaper editors, except those of the Government organs, were thrown into prison. The President announced that the country was tranquil, but the murmurs of impending rebellion were heard in all the provinces. He continued to send arms and ammunition in Venezuelan gunboats to the Colombian insurgents. His friends, who were few outside of officeholders, asserted that he was bound to assist the Colombian Liberals in return for the aid they had given him in 1899 in his rebellion against President Ignacio Andrade. On Oct. 29 Gen. Castro, who for two successive years had acted as provisional President, was declared to have been definitively elected as President of the republic, and his election was officially proclaimed by the Venezuelan Congress. In October Gen. Juan Pietri headed an armed rebellion against Castro's Government in the state of Carabobo. Important expeditions were prepared in Trinidad and Curaçao. Manuel A. Matos, who was Minister of the Treasury under Presidents Joaquin Crespo and Ignacio Andrade and had fled to Europe after being imprisoned by Castro for refusing to give up money for the support of the Government, fitted out in Antwerp an expedition with a great quantity of arms and ammunition and set out for Venezuela in an armed steamer for the purpose of starting a great uprising. Ex-President Andrade and many other exiles assembled from all parts of America and from Europe in Curaçao and other ports adjacent to Venezuela. In the eastern part of the country, where the rebellious rising took place at the beginning of the year, insurgents who had landed from Trinidad captured Maturin, in the state of Bermudez, after a sanguinary battle with the Government troops. In the state of Bolívar occurred a simultaneous rising. Gen. Montilla collected 600 revolutionists near Barquisimeto, Gen. Castillo another force at Coro. A battle with insurgents was fought near Barcelona. On the river Guarapiche the Government troops were victorious in their operations against insurgents led by Gen. Rivas and Gen. Canas. Gen. Pietri besieged the city of Calaboso. Gen. Pablo Guzman attacked Aragua and captured a quantity of arms, then defeated successively the force of Gen. Meijas and the command of President Marcamos of the state of Bermudez. Gen. Zoila Vidal surprised the Government troops at San Felix.

When the revolutionary movement broke out President Castro no longer knew whom to trust among his political friends. Dr. Blanco left the Cabinet in consequence of the truculent answer that the President insisted on giving to the proposal of the Pan-American Congress to arbitrate. Castro lost confidence in Señor Velutini and compelled him to resign. The post of Minister of Foreign Affairs was given to Regino Pachano, and that of Minister of the Interior to Calixto Escalante. A few days later Gen. Ramon Guerra, the Minister of War, was thrown into prison on the charge of conspiring against President Castro, and Gen. Gorrida was appointed to the vacant post.

Gen. Luciano Mendoza, who had just been elected president of the state of Carabobo, with Gen. Antonio Fernandez and Gen. Lutowsky, former Ministers of War under Crespo and Andrade, raised a revolutionary force at Villa de Cura. An uprising also took place near Valencia, and others were started in various parts of the country, even in the vicinity of Caracas. War-ships of the United States, Germany, Great Britain, France, and Italy were ordered to Venezuelan ports. The *Ban Righ*, renamed the *Libertador*, landed the expedition of Señor Matos near Guzman Blanco, the port of Barcelona. All the vessels of the Venezuelan fleet had been on the watch for this vessel, which Castro threatened to treat as a pirate. The adherents of Gen. José Manuel Hernandez, called *El Mocho* because of a crippled arm, who headed a revolt against Gen. Castro in the autumn of 1899 and has since been kept in prison, acted independently of the main revolutionary organization supported by Matos, which was working ostensibly for the restoration of President Andrade. The army generally remained faithful to President Castro, although discipline and fidelity among the rank and file were impaired owing to their not having received their pay regularly. The partizans of Gen. Hernandez made an attempt to take the city of Maracaibo, and were worsted, although they inflicted considerable losses on the Government troops. In other places the Government troops were successful when pitched battles took place. Nevertheless the revolution gained ground, and new bodies of insurgents continued to be formed all over the country and to be supplied with a sufficiency of arms and ammunition.

VERMONT. (See under UNITED STATES.)

VIRGINIA. (See under UNITED STATES.)

VOLUNTEERS OF AMERICA. An account of the division in the Salvation Army in the United States and the formation of the society of the Volunteers of America, in 1896, was given

in the Annual Cyclopædia for that year. Like the Salvation Army, the organization of the Volunteers is military, but it is wholly American, and all the officers are elective. Its object is to carry on religious work among classes of population who are outside of the influence of the churches, cooperating with the churches, teaching the doctrines of those of them which are designated as evangelical, and observing their sacraments. The Volunteers of America in 1901 had expanded, as it is expressed in their reports, to national proportions, had about 100 self-supporting posts, were recognized in nearly 150 cities and towns, and returned \$42,500 of assets, with \$20,000 of liabilities, while they had raised during the year \$81,012 for their own support. It was estimated that during the past nine months they had reached 1,864,951 persons through their outdoor agencies and 1,241,567 through their indoor gatherings, making aggregate congregations for the year of more than 3,100,000 people. The Volunteers have 5 branches for philanthropic work, including 8 shelters for men, food distribution, "slum work," homes of mercy for women, through which 348 women were helped and cared for, and Volunteer tenement work, by means of which 1,583 families had been visited, and more than 4,500 had been helped with food and clothing. Through the Volunteer Prison League, which was established in 13 prisons (at Sing Sing, Auburn, and Clinton Prisons, N. Y.; Charlestown, Mass.; Trenton, N. J.; Joliet, Ill.; Columbus, Ohio; Cañon City, Colo.; Baltimore, Md.; and Folsom and San Quentin, Cal.), 12,000 members had been enrolled. About 1,300 men had been passed through the "Hope Halls" that have been established for ex-prisoners in New York and Chicago, 75 per cent. of whom were represented as known to be doing well. Through their sociological branches the Volunteers had received 234,814 men and fed about 371,297 at a nominal cost.

W

WASHINGTON. (See under UNITED STATES.)

WEST AFRICA. The main part of the west coast of Africa between Morocco and the Congo State and the regions of the interior as far as the Egyptian province of Bahr el Ghazal have in recent times been divided by mutual agreement between France, Great Britain, and Germany, the largest share falling to France, whose sphere south of Algeria has an extent of 3,314,000 square miles, while the British colonies and protectorates have a combined area of about 500,000 square miles, and that of the German protectorates is 225,930 square miles. Spain has a sphere on the coast of the Sahara desert about 100,000 square miles in extent, and in the south an insignificant station at Cape Nun, enclosed in British territory, and a strip of coast between the Muni and Campo rivers, containing about 15,000 square miles, but surrounded on the land side by French territory. Portuguese Guinea, 1,480 square miles in extent, is also enclosed in French possessions. The salubrious Cape Verde Islands remain to Portugal, and St. Thomas and Prince's island in the Bight of Biafra, where Spain has Fernando Po, Annobon, and the small islands opposite the Rio Campo district recently recognized as Spanish by France. The independent republic of Liberia has an area estimated at 35,000 square miles. Two incidents which have been the occasion of controversy and recrimination for years were by a con-

vention concluded on April 5, 1901, between the French and British governments in 1901 referred to the arbitration of Baron Lambermont, Minister of State of Belgium. One was the seizure of Lieut. Mizon's river steamer on the Binue river by the officials of the British Niger Company, for which the British Government admitted in principle that an indemnity ought to be paid, and only questioned the amount. The other was the frontier collision at Waima, which turned out to be in British territory, the British victims of which or their families the French Government was willing to indemnify, but the complicated circumstances of the affair made it impossible to fix valuations that were acceptable to both governments.

French Possessions.—The French had a settlement in Senegal in the seventeenth century, asserted dominion where they had factories in Guinea and on the Ivory Coast before the middle of the nineteenth century, and in 1884, after Germany had roused the rivalry of the old colonizing powers by asserting a protectorate over Cameroons and Togo, started out to acquire a vast empire in Africa, beginning in the Ogowe valley on the border of the territories of the Congo Association, the reversion of which to France if the King of the Belgians should ever part with them, was at that time secured by treaty. When the Germans turned their attention to the Niger valley, and when afterward the British Royal Niger Com-

pany, ousting them, developed its political plans in this region, the French, who had sent out expeditions from Senegal in 1860 and 1878, and maintained a military force there from 1880, entered upon a vigorous course of military expansion in the bend of the Niger, setting out from the colony of Senegambia, and also behind their possessions on the Slave Coast and the Ivory Coast. Long years of costly warfare resulted in the conquest of Dahomey and the overthrow of Ahmadou, Samory, and other military chieftains who opposed their progress to Timbuktu and Lake Chad. An agreement with Germany permitted the French to expand in the direction of Lake Chad from the French Congo. The Anglo-French agreement of 1890 recognized as within the French sphere all the region north of a line drawn from Say, on the middle Niger, to Barua, on Lake Chad. The Anglo-French agreement of 1898 gives to France a free hand in the countries of the Soudan east of Lake Chad, and confirms France in the possession of a Hinterland joining French Guinea and the Slave Coast to the French Soudan and Senegambia and these to the French Congo in the south and to Algeria and Tunis in the north, but it shuts France out from political possessions on the maritime Niger, though not from commercial access to it, for Great Britain agreed to lease to France for purposes of commerce a piece of ground on the right bank of the Niger between its confluence with the Moussa and Lealaba, and another on one of the mouths of the Niger, the leases to run thirty years, within which time British and French shall have the same treatment as regards person and merchandise in matters of river navigation, commerce, tariffs, and taxes of every description. Capt. Lenfant in the spring of 1901 proceeded to the lower Niger to take possession of the two enclaves, each of about 200 acres, the location of which was settled in the summer of 1900 by Col. Lugard and Major Toutée. One is between Liaba and the river Moussa and the other in the delta of the Niger.

The Governor-General of French West Africa and Governor of Senegal is N. E. Ballay.

The colony of *Senegal* proper has an area of 80,000 square miles, with 1,180,000 inhabitants. St. Louis, the seat of administration, has 20,000 inhabitants; Dakar, 12,000; Rufisque, 8,000. About 80,000 of the population of the old colony and all those of the annexed region of the western Soudan are ruled by their own chiefs. The annexed region, added to Senegal in January, 1900, extends 900 miles into the interior, having an area of 120,000 square miles and a population of 2,020,000. The military force in 1900 was 2,600 men, of whom 1,180 were natives. The French Government expended 1,154,960 francs in the new territory in 1901. The original colony in 1900 paid its way, raising a revenue of 4,454,611 francs. Millet, rice, corn, and plantains are grown by the natives, and earthnuts, gums, rubber, coconuts, cola, castor-beans, and gums are exported. All the imports, valued at 52,425,000 francs in 1899, came from France, and of the exports, 23,725,000 francs in value, three-fourths went to France. There have long been in existence 163 miles of railroad connecting Dakar, St. Louis, and Rufisque, and 83 miles from Kayes, the head of navigation on the Senegal, to Bafulabe, to be extended to Bammuko, on the Niger. The line was completed as far as Badugu, nearly half the distance of 350 miles between the rivers, in the summer of 1901. The people of Senegal are represented by a Deputy in the French Chamber. There are schools in the towns with 67 teachers and 1,986 pupils. The making of cloth,

pottery, and jewelry are native industries. There are about 90,000 cattle, 50,000 sheep, 40,000 goats, and 3,000 camels. Gold is found in places, and also silver, copper, and mercury.

The present boundaries of Senegal extend eastward to Lake Debu in the bend of the Niger. Beyond that are the military territories and Mauritanian protectorates, embracing all the regions south of the Algerian Sahara and north of the Ivory Coast, the British Gold Coast, German Togoland, Dahomey, and British Nigeria. French military power has penetrated to the shores of Lake Chad, beyond which the French sphere, according to the Anglo-French agreement of June 14, 1898, includes the semicivilized states of the middle Soudan and the Libyan desert, ending at the confines of Egypt and the Egyptian Soudan. The expenditure of France in the military territories in 1901 was 13,650,446 francs. The military force was 8,400 men, of whom 4,760 were natives. Gum and rubber are exported from the bend of the Niger, and the people cultivate millet, rice, wheat, and earthnuts. The chief town is Timbuktu, the ancient center of the caravan trade, which has at present about 12,000 inhabitants. In the Shari region a regular military administration has been established, and the population, consisting of the pagan Banda, Mandsha, and Sara tribes, enjoys security of life and property such as has never before been known. They have always been the prey of the slave-hunting and predatory raids of their Mohammedan neighbors, especially from Bagirmi. The French have not yet introduced the hut tax or the tithes collected in the territories of the French Congo. The Bandas have good military qualities and will furnish recruits for the French colonial forces. The country is productive, although the people stand low in the scale of civilization. Cotton, rubber, and ivory are the chief products. Since the overthrow of Rabah in the spring of 1900 the western half of his empire of Bornu has accepted French military rule with content. The people of Bornu are the most civilized, though the least warlike, of the races of the central Soudan. Their former feudal system was upset and destroyed by Rabah, and he devastated and ruined the country so thoroughly that many years of peaceful development are necessary for its renovation. The French recognized as Sultan of Bornu after the death of Rabah a descendant of the old reigning family named Ahmasinda. Bornu is not in the French sphere as defined in the Anglo-French agreement of 1898. In the agreement of 1890 Socoto and Bornu were expressly acknowledged to be English on the ground of treaties which the British Niger Company pretended to have with their rulers. In the agreement of 1898 the line from Say to Barua dividing the French from the English sphere was changed for a line starting on the Niger at the Dallul Mauri watercourse, which is 100 miles below Say. This it follows up to a point 100 miles from the city of Socoto. It circles on that radius till it strikes the parallel of 14° to the east of Socoto, and follows that to Lake Chad, with a large indentation to the southward which is 250 miles long and 40 or 50 miles broad, so as to include in the French sphere the town and district of Zinder. West of the Niger the frontier between the British and French spheres was delimited by Col. Lang and Commandant Toutée. Starting at the intersection of the Okpara river by the parallel 9° of north latitude, at the boundary between Dahomey and Lagos, it runs northerly, with an eastern deflection so as to leave Nikki and other districts to France, and strikes the Niger 10 miles above Gere, the port

of Ilo, from which point the river Niger is the boundary up to the Dallul Mauri. The British did practically nothing to establish their power in northern Nigeria after taking over the country from the British Niger Company. The native soldiery that was recruited and trained for the purpose was called off to the Ashantee war, and the Government had to face a general movement of rebellion among the coast tribes. The Anglo-French boundary, according to the terms of the convention, should have been laid down within two years, but no steps were taken to carry out this provision, and in that region nothing was done to develop English authority or influence, unless, as the French suspected, the English made a secret alliance with Rabah, the Arab slave-raiding conqueror who laid waste one country after another in the Central Soudan and was holding sway over Bagirmi and Bornu when the French routed his army near the Shari. Fadelallah, Rabah's son, was able to hold together the chiefs who followed the fortunes of his father and still defied the French in the Shari province until Capt. Robillot, in February, 1901, defeated him and his brother Niebe, killing a great many of his men and capturing his camp. The French lost 2 killed and 25 wounded. Fadelallah, pursued by the French column, fled 300 miles into Bornu. He rallied a considerable force, and entered into communications with the British. Major McClintock with a small force proceeded from Ibi, on the Binue, and negotiated a treaty by which Fadelallah was to be recognized as Emir of Bornu under British protection. The absence of Sir Frederick Lugard in England prevented the consummation of any arrangement at this time. While another expedition under the command of Capt. McCarthy Morrourh was preparing to visit him again at Bergama and formally install him as ruler of Bornu, a company of spahis and infantry under Capt. Dangerville once more crossed German territory west of the Shari, and penetrated into Bornu, and on Aug. 23 attacked Fadelallah in his camp, routed his forces, and killed him. Two days later his brother and the rest of the chiefs surrendered to the French. The actual ruler of Bornu, whose seat was Begra on Lake Chad, Kuka, the former capital, which had 100,000 inhabitants, having been destroyed by Rabah, paid tribute to the French. While British power was unknown, the French were exceedingly active in the region about Lake Chad. The Foureau expedition and the one under Capt. Joalland and Lieut. Meynier passed through Bornu and were aided by the hereditary sultan, whom the French had enabled to gain the throne by their overthrow of Rabah. On Dec. 20, 1900, the third military district in French West Africa was constituted, and the Chamber voted 550,000 francs for the occupation of this district between the Niger and Lake Chad and the establishment of military posts at Say, Zinder, Maradi, and Koni, although the two latter places are within the British sphere. Col. Peroz, who went out as commandant of the new territory, was instructed to reach his post without traversing British territory. He succeeded in reaching Zinder by following the circumference of the Socoto circle, and his experience demonstrated the impracticability of this route between Say and Zinder, since it crosses two desert tracts infested by Tuareg robbers. The French desire a revision of the convention of 1898, which will give them not only a better route, but which, in return for adequate compensation elsewhere, will transfer to their sphere the whole of Bornu, which they have redeemed from oppression and where their effective influence has been

developed as a result of their establishing their power in the Shari delta at the cost of heavy sacrifices. Gauranga, the Sultan of Bagirmi, although he was rescued from Rabah's oppressions by the French, who have made their rule light, exacting only a nominal tribute, is not altogether pleased with the exchange of a Mohammedan for an infidel overlord, and still less with the loss of the rich Shari delta, which he was obliged to cede formally to France and which is covered with French military posts. The tract between the Shari and the Logon he has to give up to the Germans, and this loss he ascribes likewise to the French, since in the Soudan all Europeans are regarded as Frenchmen.

In Kanem, a country tributary to Wadai, situated on the northeast shore of Lake Chad, Capt. Joalland set up a sultan, Alifa Serab, who was devoted to the French. He had soon to defend his *protégé* against the Aulad Sulimans and Tubbus, Bedouin tribes that were adherents of El Senussi, the mahdi of the central Soudan, which immediately rose against the friend of unbelievers. Mohammed es Senussi, another vassal of Wadai, received a French mission in Ndele, his capital, and signed a treaty of commerce and protection, but did not attempt to throw off his allegiance to the Sultan of Wadai, to whom he pays tribute in slaves and ivory. Ibrahim, who succeeded his father Yussuf as Sultan of Wadai in 1898 through the influence of the Vizier Djerma, the elder brother Abdelasiz being thrown into prison, where his eyes were put out, tried afterward to remove the vizier. The latter thereupon entered into a conspiracy to put Achmed, Yussuf's brother, upon the throne. Some of the chief men of the country were won over, among them the Aghib el Mohammed, the commander-in-chief, through whom Achmed obtained possession of a large quantity of war material stored three days' journey from Abesha. Two of Ibrahim's generals, Yassin and Satty, were murdered. The members of the sect of the Sheik Senussi were hostile to Ibrahim, who was not on as good terms with its head as his father had been. El Senussi sent envoys to the Sultan Ibrahim to induce him to enter into a league to oppose with force the advance of the Europeans to Lake Chad. The proposed alliance was not effected. The Sheik Senussi showed secret activity and assembled a great number of his nomadic adherents in the Guru oases. Ibrahim was a weak and unpopular ruler whose officials oppressed the people of the country and plundered the merchants from Tripoli. The result of the civil war was his downfall. In May he was reported to have fallen into the hands of Achmed and to have been either killed or deprived of sight. Wadai is still the most populous and powerful of the states of the central Soudan. Before it was overrun by Rabah's horde Bagirmi as well as Kanem sent tribute to Abesha. The area of Wadai is 172,000 square miles, and the population was estimated by Nachtigal at 2,600,000. The Arab traders of Wadai exchanged salt and manufactured goods for ivory, slaves, ostrich-feathers, and copper, sending their caravans as far south as Dar Banda and as far west as Bornu. There is an active trade with Tripoli. The political power is in the hands of the negro Mabas, who dwell in the northeastern part of Wadai. The Sultan had an army of 7,000 men, which he employed in collecting tribute in slaves, horses, cattle, honey, and grain from the provinces and vassal states. Kanem has an area of 30,000 square miles and a population of about 100,000. The Aulad Suliman Arabs, who muster 1,000 fighting men, have kept the Kanem people in sub-

jection. The Sultan of Ndele has a fighting force of 1,000 rifles and 3,000 spearmen. Bagirmi formerly covered 66,000 square miles, with a population of 1,500,000. The Sheik Senussi has hitherto made no effort to develop a military power, although he has been indefatigable as a religious prophet in extending his teachings and his religious influence. In Hedjaz the majority of the Beduins have been converted to his doctrine. While the civil war in Wadai was going on he interfered no more than he had in the conflict of the Egyptian mahdi with the British or that of Rabah with the French. He remained in the desert northwest of Wadai, where he dug wells in the desert and established settlements of the order, and where the Mohammed, Tubbu, Aulad Suliman, and even the Tuareg tribes were devoted to him. The Sultan of Wadai sent him presents of slaves and grain. If the French established their power in Wadai he intended to migrate far to the west and seek in the desert south of Morocco the conditions under which the pure theocracy and the religious life of Mohammed's time can be revived. The Turkish Government has been hostile to Senussi in Fezzan, and has aided the rival organization of the Medaniyeh. Once an attempt was made to entice the Sheik Senussi to Stambul, where he would have been detained, and once a plot was formed to seize him in Djerbub, in consequence of which he sought a refuge in the oases of Kufra, whence he wandered farther south when the Turks tried to install a Kaimakam in that district.

French Guinea has an area of about 95,000 square miles and 2,200,000 population. The products are earthnuts, gum, and rubber, of which last 1,857 tons, valued at 6,993,577 francs, were exported in 1899. Rice and millet are grown for food. The total value of imports in 1899 was 15,441,710 francs, and of exports 9,461,496 francs. There were entered 5,072 vessels, of 312,391 tons; cleared, 5,002, of 308,523 tons. Of the imports only 3,980,004 francs came from France, and of the exports France took 747,373 francs, while 5,581,763 francs went to Great Britain. The revenue raised in 1900 was 2,870,000 francs. Wharves have been built at Conakry, and a railroad to the Niger is being constructed. The dependent protectorate of Futa Djallon, a country rich in cattle, extends to the border of the military territories.

The *Ivory Coast*, including the kingdom of Kong, also reaches to the military territories. The area is about 125,000 square miles and the population 125,000. The Governor, M. Robardeau, resides at Grand Bassam. The local revenue in 1900 was 1,403,000 francs. The chief exports are palm-oil, rubber, gold, which is mined near the capital, and coffee, which has been planted within a few years by Europeans. Valuable forest products are brought from the interior. Gen. Combes undertook a campaign in 1901 to pacify the Baule country in preparation for the building of a railroad from the coast. A gold-mine was discovered early in 1901.

Dahomey and its dependencies have an area of 60,000 square miles and about 1,000,000 inhabitants. The Governor, M. Liotard, resides at Porto Novo, which has 50,000 inhabitants. Abomey, the capital of the former kingdom of Dahomey, has 15,000. The natives of the coast district are good agriculturists, who raise corn, yams, and manioc. Oil and coconuts are obtained from the forests. The protectorate extends to Say, on the Niger, to which a railroad may be built from the port of Kotonu, which is connected by telegraph with the Niger and Senegal. The local revenue in

1900 was 2,200,000 francs. The value of imports in 1900 was 13,950,000 francs, and of exports 14,300,000 francs. In 1901 the railroad as far as Abomey was pushed forward with a great force of workmen. The railroad will be carried immediately to Tshaura, 190 miles north of Kotonu. The country was peaceful and contented and the harvest of palm-kernels abundant. The trade has increased 50 per cent. in three years. British cotton goods and German and French spirits are the chief imports, and the exports are palm-oil to England and palm-kernels to Germany by way of Lagos.

The *French Congo* extends northward behind the German Cameroons to Lake Chad and north-eastward to Bahr el Ghazal, being divided from the Congo Independent State by the Congo and the Ubangi. The Commissioner-General, A. Grodet, residing at Libreville, administers the former territory of Gabun-Congo, while the northern regions, where French troops have been active of late, are organized as the Military Territory of the Lands and Protectorates of the Chad, embracing the Shari and Kemo basins excepting the native kingdoms of Bagirmi, Kanem, and Wadai. The total area is estimated at 425,000 square miles and the population at 15,000,000. The local revenue in 1900 was 3,834,060 francs. The French budget for 1901 appropriated 2,078,000 francs for the colony. The forests abound in rubber and cabinet woods. The natives grow manioc and plantains. European planters raise coffee, vanilla, and cacao. Gold, copper, and iron are found. The total value of imports in 1899 was 6,690,263 francs, of which France supplied 2,500,000 francs. The total value of exports was 6,625,041 francs, of which 1,600,000 francs went to France. The export of rubber was 3,015,000 francs in value; of ivory, 1,878,000 francs; of woods, 1,150,000 francs. Other exports are palm-oil and kernels, coffee, cola-nuts, and piassava. The ports were visited in 1898 by 103 vessels, of 250,009 tons, of which 49, of 127,667 tons, were French. The chief port is Loango. River craft ascend to Libreville, which will be connected with the Congo by a railroad. There are 45 schools in the colony, with 2,654 pupils.

British Colonies.—The *Gold Coast* is a Crown colony having an Executive and a Legislative Council to advise the Governor, Major Matthew Nathan. The area is 40,000 square miles, with 1,473,882 inhabitants, not including the Adansi and Ashanti dependencies. The population of Cape Coast Castle is 11,614; of Accra, 16,267; of Elmina, 10,530. The number of Europeans in the colony does not exceed 500. There are about 11,000 pupils in the Government and the Wesleyan, Roman Catholic, and German Lutheran schools. The revenue in 1899 was £322,500; expenditure, £309,660. The value of imports was £1,323,220; of exports, £1,111,740. The tonnage entered and cleared was 1,250,410 tons. There are 100 miles of railroad from Sekondi, on the coast, toward Tarkwa, which will be continued to Kumassi, or one will be built from Appam. One from Accra to the Volta river is projected. There are 688 miles of telegraph-lines. The Anglo-German agreement of Nov. 14, 1899, makes the Daka river the boundary between the colony and Togoland up to 9° of north latitude, and beyond that a line running north which shall be so deflected as to leave Gambaga and Mamprusi on the English and Yendi and Chakosi on the German side of the boundary. Ashanti was conquered and annexed in 1896, and the King has since been held a prisoner in Sierra Leone. Gold is mined in many places with Euro-

pean capital, and the operations are being extended. There were 332 companies to work West African gold-mines in 1901, with a nominal capital of £27,000,000. The Colonial Secretary cautioned investors against being entrapped by speculators in worthless concessions. The gold-fields of Wassu and Ashanti can not be opened up until the railroads are built, and the Government has been blamed for its slowness in building them. Palm-oil and kernels and rubber are the principal products of the Gold Coast. Fine woods are also exported. In the northern territories Major A. H. Morris is commissioner under the Governor and commander of the forces.

The boundary between the British Gold Coast protectorate and the French Soudan was delimited in 1900 by Capt. Peltier and Capt. A. E. Watherson, who had to fight with the hostile Fra Fra tribe. French military posts were established at Leo and Tenkrodogo and British posts at Gambaga and Tumu. The portion of the line round Sapeliga, north of Gambaga, was not fixed and was made the subject of further negotiations between the two governments.

The soldiers who fought in the Ashanti campaign of 1900 were, with the exception of Sikhs, West Indian negro troops, and Askaris from Somaliland and Central Africa, all youthful recruits from various West African tribes, including Hausas from Bornu and Lake Chad, Yorubas, Nupes, and Mendis. The admirable courage and discipline they displayed determined the British Government to employ black soldiers in West Africa, as the French have done. The three Ashanti wars have cost £900,000. The last one was provoked by Sir Frederick Hodgson, the Governor, who on hearing a foolish tale that the golden throne and the buried treasure of the deposed King Prempeh had been found, went to Kumassi and, after telling the chiefs that their King would never be restored, demanded the golden stool and a heavy tribute, 4,000 ounces of gold to be paid every year. The Ashantis in general had only partially acquiesced in the banishment of King Prempeh in 1896, which they regarded as an act of treachery on the part of the British after obtaining his submission by negotiation. His own tribe, the Kumassis, felt most bitter. The fines imposed by the British for every offense and the impressment of carriers and laborers were further causes of dissatisfaction. Major Nathan almost precipitated a fresh outbreak in 1901 of the Bekwais who aided the British in the Ashanti campaign by demanding the payment of a war indemnity dating from 1874. There were still 500 men of the West African frontier force in the colony. Kumassi was garrisoned by a battalion of the West African regiment. These men should have been relieved in January, and in March 300 of them mutinied and started for Cape Coast Castle to demand passage back to Sierra Leone. Marines and the Central African regiment captured them after some fighting, and some were shot and the rest shipped home.

The Crown colony of *Gambia* has also an Executive and a Legislative Council, both composed of nominated members. The Administrator is Sir George C. Denton. The area of the colony proper is 69 square miles, and the population in 1899 was 15,000. The number of white residents was 62. Bathurst, the capital, has 6,000 inhabitants. The protected territory lying in the rear of the colony has an area of 2,700 square miles and 200,000 population. The principal exports are earthnuts, hides, wax, cotton, and rubber. Rice and corn are raised for food. The revenue in 1899 was £46,840, and expenditure £30,410. The value of

imports was £240,910, and of exports £241,340. The vessels entered and cleared had an aggregate tonnage of 284,635. At the beginning of 1901 a punitive expedition set out against two villages where two British commissioners were murdered in June, 1900. The troops employed were West Indians and a battalion of a Central African regiment that had arrived too late to take part in the Ashanti campaign. The natives of one of the villages fled into French territory; those of the other offered resistance, but were easily defeated. The columns marched through the country, seizing live stock and burning many villages. The British have never been able to assert their authority over the natives because these can go over into French territory. An arrangement was made with the French Governor-General for the cooperation of French and British troops, especially for the suppression of Fodi Kabba, who after leading a rebellion in Gambia in 1892 had settled on the French side of the border, and since then had made trouble for both the French and the English and was believed to have instigated the murder of the British commissioners. By command of M. Ballay the head chief on the upper Gambia, Mousa Mollah, whose capital is in French territory, agreed to help capture Fodi Kabba. Col. Brake stationed his troops along the frontier while on March 23 the French troops surrounded Fodi Kabba's town, Mandina. He was killed with 150 of his followers and his stronghold was destroyed by the French troops, consisting of 440 Senegalese tirailleurs and spahis under Commandant Rouvel. Mousa Mollah, whose levies assisted in capturing the stragglers, subsequently by direction of the French authorities acknowledged British jurisdiction in respect to his territories on both banks of the Gambia within the conventional boundaries of the British protectorate.

The colony of *Lagos* has an area of 985 square miles with 85,607 inhabitants. The Lagos Protectorate, bordering on Nigeria, has an area of 21,000 square miles and a population of 3,000,000. In the schools of the colony are 3,371 pupils. The exports are palm-oil and kernels, ivory, gum-copal, cotton, rubber, cacao, and coffee. A railroad, 60 miles in length, from the town of Lagos to Abeokuta has been continued 66 miles farther to Ibadan. A branch from Abeokuta leads to Aro. A continuation of the railroad to Ilorin and the Niger is planned. The Governor of the colony is Sir William MacGregor. The revenue in 1899 was £192,790, and expenditure £223,290. The value of imports was £966,600, and of exports £915,940. The tonnage entered and cleared was 968,823 tons. Gold has been discovered in the neighborhood of Ibadan and there are indications of diamonds and other precious stones.

Sierra Leone has an area of 4,000 square miles and 74,840 inhabitants. Freetown, the capital, has 30,033. The Governor, Sir Charles Anthony King-Harman, as in the other colonies, has a Legislative and an Executive Council. The white population is 224. Freetown is the headquarters of the British forces in West Africa, consisting of the West India and the West African regiments and engineers and artillery. There is an armed constabulary of 600 men. The revenue in 1899 was £168,380, and expenditure £145,090. The value of imports was £689,810; exports, £336,010. Ships entered and cleared had a total tonnage of 1,181,748. There are 60 miles of railroad connecting Freetown with Songotown and Rotofunk, which is being extended 80 miles to Bo. The average attendance in 65 schools was 5,583 in 1899. The chief products are palm-oil and ker-

nels, benni-seed, earthnuts, cola-nuts, rubber, gum-copal, and hides. The protected territory, extending to the French boundary, has an area of about 30,000 square miles and 375,000 inhabitants.

The British protectorate of Nigeria has an estimated area of 400,000 square miles, with over 30,000,000 inhabitants. In the delimitation of the Lagos protectorate from Nigeria the Yoruba country is included in the former, while all Borgu towns go to the latter. The prolongation of the boundary-line eastward across the Niger divides Northern Nigeria from Southern Nigeria. The northern territory was administered before 1900 by the Royal Niger Company, which collected heavy import and export duties, since abolished. The southern territory, a part of which constituted the Niger Coast Protectorate, included Benin. The revenue collected in the financial year 1900 was £164,108. The value of imports was £725,798; of exports, £888,954. In 1899 there were 379 vessels entered, of 559,912 tons; cleared, 375, of 551,555 tons.

Southern Nigeria is inhabited by pagan tribes, backward in civilization and addicted to fetishism and savage practises. The exports are palm-oil and kernels, ivory, rubber, camwood, indigo, ebony, gums, barwood, and hides. The High Commissioner is Sir R. D. R. Moor. The military force consists of 1,080 native troops. The revenue collected in the year ending March 31, 1901, was £164,108, and the expenditure was £176,140. Of the revenue £156,491 was from customs duties. The imports amounted to £725,798, and exports to £888,954. The imports of gin and rum were less than in the previous year, but were still very heavy. Exports showed a large increase, due to the growth of the trade in palm-kernels, palm-oil, rubber, and cacao. While British trade forms 69 per cent. of the total, trade with Germany is on the increase. A forestry department has been formed to secure the preservation of the rubber forests in Benin, and the natives seem disposed to conform to the regulations. The region of Ishan northeast of Benin City never having been brought under control, Major Heneker, who was attacked there in November, 1899, conducted an expedition into that country in the spring of 1901, as soon as a force was released from the Ashanti war and other expeditions in Southern Nigeria. The Ishan natives fought obstinately for the defense of their independence, and the occupying force, having met with severe losses, 32 casualties being reported in the first engagements, was strengthened to 500 men and remained till the rainy season set in. The Benin people seem to be thoroughly pacified and contented with British rule. The British have to subjugate thoroughly the tribes inhabiting successive zones between the coast and the interior in order to open the way for trade, because trade and the carrier service has been the monopoly of each tribe over its own strip of territory, and no whites or other strangers can interfere with their profitable privilege except by conquering them. In November, after the rains were over, a great expedition marched against the Aro tribes between the Cross river and the Niger. There were four columns, each 400 strong, composed of all the available forces of Southern Nigeria, 500 men from Northern Nigeria, and detachments from other colonies. The Aros are superior to other tribes in intellect and physique. They carry on the practises of slave-raiding and human sacrifices. Their country is exceedingly productive and is believed to be capable of yielding a revenue of £500,000. The first operations were against the villages on

the creeks, which were shelled by gunboats. The Aros were armed with Snider rifles and defended themselves from behind breastworks. While the British columns advanced into their country they fell upon the British posts behind them, and where these were not strongly garrisoned they burned the towns and killed the inhabitants.

Northern Nigeria embraces the Fula empire of Sokoto and its vassal states of Gandu, Kano, Bakundi, Takum, Zaria, Ilorin, Nupe, etc.; a great part of the kingdom of Bornu; the pagan confederation of Borgu; and the pagan tribes to the south of the Binue. There are populous cities where the native industries of weaving, tanning, and metal-working are carried on. Such places are Kano with 100,000 population, Bida with 90,000, Ilorin with 50,000, and Yakoba about as populous. Cotton and indigo are grown and used in the indigenous manufactures. The leather prepared by the natives is sought in Europe for ornamental applications. The Haussas, who form the bulk of the population, are an intelligent race, educated in Moslem learning, industrious agriculturists and handicraftsmen and adventurous traders. The Fulas constitute the ruling caste. The High Commissioner is Sir F. J. D. Lugard, and the commander of the troops is Col. Sir J. Willcocks, who has ordinarily a force of 2,500 trained native soldiers.

The action of the British since the appointment of Sir Frederick Lugard as Administrator of Nigeria at the beginning of 1900 was confined for a long time to organizing the administration of the more settled regions on the middle Niger and for a short distance up the Binue. The greater part of the West African frontier force was despatched to aid Sir Frederick Willcocks in the Ashanti campaign. All the rulers and people were hostile to the English and prepared to fight for their independence. Spurred by the activity of the French about Lake Chad and the Germans in the Cameroons Hinterland, Col. Morland, commandant of the West African frontier force, was sent up the Binue to Yola to reduce to subjection the Emir Zuberu of Adamawa, the most powerful of the Fulani rulers of the Socoto empire, who plundered traders and raided the country for slaves in defiance of warnings from the High Commissioner, finally sending back a letter from him unopened. The punitive force started from Lokoja on Aug. 26, picked up detachments at Ibi and intermediate stations, landed at Yola on Sept. 2, and formed in a square, the Emir Zuberu having given warning that he would attack unless the troops reembarked. His horsemen and foot attacked with much spirit, but were easily repelled with case-shot, Maxims, and volleys from magazine rifles. The troops, 380 in number, entered the town, and Col. Morland, Major McClintock, and 25 per cent. of the Haussa rank and file were wounded before they took the palace, which was defended by the emir's body-guard and 300 Arab and Bornuese deserters from Fadelallah's army, with rifles, bows and arrows, and two old French guns. The emir, whose losses amounted to 150 men, fled with a mounted escort, and the acting High Commissioner, William Wallace, set up Zuberu's brother, Bobo Amadu, as emir, appointed Capt. Ruxton English Resident, and established a fortified post commanding the town. The new emir promised not to engage in slave-raiding, while the English agreed not to interfere with domestic slavery.

The farthest point on the Binue occupied before this was Ibi, half-way between Lokoja and Yola. Beyond were the hostile Munshi people, whose poisoned arrows cause death in a few minutes.

Before the advance to Yola it was necessary to drive them from both banks of the river and to garrison several posts. In 1900 and the early part of 1901 an attempt was made to extend British authority up the Niger so as to render secure the chosen site of the new capital and establish the administrative headquarters in a more healthful place than Lokoja. The emirs of Kontagora and Bida, who were the most powerful chiefs south of Socoto, challenged the English when they first came to build their capital at Jebba, and made a combined attack on the advanced post at Wushishi. The garrison of the fort could do nothing to prevent them from ravaging the country, and when other posts were established the force was not strong enough to prevent their carrying off thousands of slaves and even plundering the canoes bringing up material for the new headquarters. On Jan. 19, 1901, Gen. Lugard despatched an expedition of 400 infantry, first against Kontagora, a walled city of 25,000 inhabitants, which was deserted after a pitched battle in which the emir's army of 5,000 cavalry and bowmen repeatedly charged the British square, hundreds falling under a murderous fire of Maxims, grape-shot, and rifles. Some approached within 30 yards, and every one of their wounded was carried away under heavy fire. Immense quantities of poisoned arrows fell inside of the square, but only a single man was killed on the British side. The emir's men were pursued for three days and a great many more were killed. Gen. Lugard, who had arrived with another battalion, conducted the advance to Bida. He summoned the emir and his chiefs to meet him at Wuyu, 12 miles from the capital. Only the makum came, the heir apparent or deputy, whom the British had installed as emir in 1895, and who had been supplanted by the real emir as soon as they departed. The emir did not now attempt to defend his city, but fled with his army, which was hotly pursued by mounted infantry who killed a great number. On Feb. 18 Sir Frederick Lugard formally installed the makum once more as emir and Capt. Cochrane was left British Resident with a strong garrison. Capt. Keyes led a small force against Raha, a slave-raiding chief who ravaged French as well as British territory. He fled, and a new chief was set up in his town. Jegga, where Sir Frederick Lugard first determined to fix the seat of administration, is a market town in a well-cultivated district. He afterward decided to transfer the administrative center 100 miles northeast to Mykonkila, a more healthful spot nearer to Socoto and Kano. It is intended to carry the railroad from Lagos to Ilorin through to Bida and Mykonkila, which is already connected with the coast by telegraph. Capt. C. V. Keyes was murdered by French traders and freebooters who with a band of native followers went about stealing cattle. The murderers were arrested by the French authorities and handed over to the British for trial.

German West Africa.—The German possessions on the Guinea coast were acquired in 1884. *Topoland* has an estimated area of 33,000 square miles and 2,500,000 population. The number of Europeans in 1900 was 114. The imports were 3,300,000 marks; exports, 2,600,000 marks. The revenue for 1901 was estimated at 750,000 marks, of which 270,000 marks are contributed by the Imperial Government. The exports are oil-fruits chiefly, and besides these rubber and live animals. Coconut-trees have been planted in the coast districts. There is an experimental agricultural station and school. Cotton and tobacco are raised experimentally. Cola-trees are being planted.

Cola-nuts are exchanged in the markets of the interior for cattle and horses and for native cloths, but the trade is with the Soudan. The rubber forests have been destroyed to such an extent that the export fell from 177 tons in 1900 to 82 tons in 1901. The roads extend but a short distance inland. A tax of 10 marks a head was imposed on emigrating laborers in 1899, but was removed in the following year. A light railroad from Lome to Little Popo was authorized in 1901. The territory of Salaga, in the interior, has been claimed by both England and Germany, and was long left as a neutral zone. On Nov. 14, 1899, they agreed to divide it so that the Daka river shall form the boundary up to 9° of north latitude, and beyond that point the line shall be fixed by a mixed commission in such a way that Yendi and Chakosi fall to Germany and Mamprusi and Gambaga to England. Negotiations for the partition of the northern part were carried on in March, 1901, but were suspended until more accurate geographical knowledge could be obtained. When the dry season of 1900 began expeditions were undertaken to subdue the Konkombas east of the Oti river and the tribes of the mountainous districts of Moba and Rotyabu. The district of Dagomba, which was assigned to Germany in the division of the neutral zone, was effectively occupied. After the death of the powerful Sultan Mohammed Andani the northern country lapsed into anarchy until the black troops under German officers restored order.

Cameroons has an area estimated at 191,130 square miles and a population of about 3,500,000. The Europeans numbered 528 in 1900. The officials and European officers of the protectorate troops numbered 81. There are German plantations of cacao, coffee, and tobacco near the coast, where the volcanic soil is exceedingly fertile. The main difficulty is lack of laborers. There are not half enough for the land already under cultivation, and until a supply can be found Gov. von Puttkamer will grant no more concessions. In the botanic garden cloves, rubber, vanilla, ginger, and pepper have been grown experimentally. German merchants carry on trade with the interior in palm oil and kernels, rubber, and ivory. The revenue in 1900 was 3,245,000 marks, of which the Imperial Government gave 2,063,000 marks. Gold and iron have been found. The imports in 1900 were 12,700,000 marks; exports, 5,100,000 marks. The northern territory was for a time closed to trade by the natives. Capt. von Besser led an expedition in 1900 and established a station. From the station at Yoko, Lieut. Ratke set up Jerima Abo as sultan in Tibati in accord with the Emir of Adamawa, who was afterward driven out of Yola by the British, and who was regarded as the religious head of the Mohammedan states in German Adamawa, and himself nominally tributary to the Sultan of Socoto. At the beginning of September, 1901, Lieut. Col. Dominik set out to plant a station at Garua on the Binue, where no German force had appeared for eight years. At the same time a scientific expedition to Lake Chad was fitted out. These enterprises indicate a change of policy on the part of the Government, which since a formidable uprising in the Soudanese territories has devoted its resources to the development of the coast regions, although colonial experts advised the opening of communications with the interior and the suppression of the trade monopoly of the coast tribes as the best means of extending commerce and procuring suitable labor for the plantations.

Portuguese West Africa.—*The Cape Verde Islands* are administered by a Governor residing

at Praia. The inhabitants are a mixed race descended from white settlers and Guinea negroes. Coffee, medicinal drugs, and millet are cultivated. On the coast of Senegambia is the territory of *Portuguese Guinea*, extending inland to the country of Futa Djallon. Rubber, beeswax, oil-seeds, ivory, and hides are exported. The revenue for 1900 was estimated at 56,655 milreis, and expenditure at 216,742 milreis. The value of imports in 1898 was 458,566 milreis; exports, 223,136 milreis. In the Gulf of Guinea are the fertile volcanic islands of St. Thomas and Principe (see PORTUGAL), and south of the Congo State the great colony of Angola (see SOUTH AFRICA).

Spanish West Africa.—The *Rio de Oro* territory has an area of about 100,000 square miles and 50,000 inhabitants. It is administered from the Canary Islands. Adrar, in the interior, formerly claimed by Spain, has been conceded to France. *Ifni*, near Cape Nun, is a settlement of 6,000 population. The area is 27 square miles. The island of *Fernando Po*, in the Bight of Biafra, is fertile and salubrious. With Annabon, Corisco, Elobey, and San Juan, it has an area of 850 square miles and 30,000 inhabitants. The Muni territory, on the mainland opposite Corisco, has an area of about 8,000 square miles south of the German protectorate of Cameroons and shut in by the French Congo in the interior.

Liberia.—The republic of Liberia, settled by American freedmen in 1822 and subsequent years and constituted an independent state in 1847 on the model of the United States of America, has an estimated area of 35,000 square miles and a population of 60,000 Afro-Americans and 2,000,000 natives. Monrovia, the capital, has about 5,000 inhabitants. The President is G. W. Gibson, who assumed office in December, 1900; Vice-President, J. J. Ross. There are many American missionaries, and schools are numerous in the coast settlements. The military force numbers 1,000 men, besides 500 militia. The revenue, derived mainly from customs, amounts to about \$160,000 a year. A foreign debt of £110,000 was contracted in 1871. In 1899, when the arrears of interest amounted to £178,000, an arrangement was made by which the debt and the rate of interest were reduced and provision was made for clearing off the unpaid arrears and the principal, the duties on rubber and other products being pledged for this purpose. The principal under this arrangement amounted in June, 1900, to £78,000 and arrears of interest to £18,720. There is also an internal debt on which no interest has been paid for a long time. The value of the foreign trade is estimated at £500,000, exports exceeding imports. The chief exports are coffee, palm oil and kernels, rubber, cacao, sugar, arrowroot, ivory, hides, and piassava. Foreign trade is restricted to the chief seaports, and whites are not permitted to acquire real estate. A concession for the export of rubber has been granted to a company, and one has been formed to mine gold, which is supposed to exist in certain localities, although no profitable mines have yet been developed.

WEST INDIES. The principal islands of the West Indian archipelago are now freed from European rule (see CUBA, HAITI, PORTO RICO, SANTO DOMINGO), while the less important ones are still colonies of European powers.

British Colonies.—The largest of the British islands is *Jamaica*, which has an area of 4,424 square miles, inclusive of Turks and Caicos Islands, the Caymans, and the Morant and Pedro Keys. The island of Jamaica, with Turks island, had 747,550 inhabitants in 1899. The Governor

is Sir Augustus Hemming. The white population in 1891 was 14,692, and there were 10,116 East Indians and 481 Chinese. The Government schools numbered 746 in 1900, with 98,598 pupils on the rolls and 61,219 in average attendance. Of a total area of 694,580 acres in 1899 the area tilled was 177,664 acres. Of the total 26,121 acres were devoted to sugar, 25,902 to coffee, 25,184 to bananas, 12,174 to coconuts, 419 to corn, 1,721 to cacao, 85,747 to ground provisions, 127,574 to Guinea grass, 231 to pimento, 43,729 to pasture and pimento, and 345,382 to pasture. There are 8 railroad lines, having a length of 185 miles. The receipts in 1900 were £116,348; expenses, £96,486; number of passengers carried, 402,095. The telegraphs had a length of 698 miles. The number of messages in the year ending March 31, 1899, was 96,812; receipts, £5,630; expenses, £7,397. The number of letters and postal cards forwarded in the year was 5,073,350. The shipping of the colony consisted of 148 sailing vessels, of 8,843 tons. The revenue in 1899 was £773,610; expenditure, £719,959. The debt was £1,875,116. The revenue from customs was £358,501. Of the expenditures £107,315 were for the debt, £61,150 for police, and £64,366 for public works. The value of imports in 1899 was £1,844,332, and of exports £1,868,080. The imports of textile fabrics were £427,115; of fish, £159,565; of flour, £148,042; of rice, 35,777. The most important export is fruit to the United States, mainly bananas. Coffee of the highest grade can be raised in Jamaica, and is to some extent. Jamaica rum is unexcelled, but the spirit is less in demand than formerly. Jamaica oranges are good, but they have been supplanted in the American market. Jamaica ginger and pimento are unique and valuable products. The tonnage of vessels entered and cleared was 1,793,511 tons. A direct line of mail, passenger, and freight steamers between Kingston and the English port of Bristol began operations in the spring of 1901. It receives a subsidy of £40,000 a year paid by the colonial and the British governments in equal shares. The four steamers of the company were fitted with appliances for carrying tropical fruits to Europe. The voyage takes thirteen or fourteen days. Each vessel, according to contract, must take at least 20,000 branches of bananas purchased direct from planters. The bananas, pineapples, mangoes, and oranges arrived in good condition. The results were so satisfactory that the owners of the line decided to give a weekly instead of a fortnightly service. The Legislative Council, opened on Feb. 26, had to consider a deficit of £24,639 in spite of £100,000 of retrenchments accomplished in three years. The Government proposed to increase the taxes on property and real-estate holdings. The elected and official members declared their willingness to provide the necessary revenue. The Governor gave offense to the elected members by nominating additional members. The elected members by a formal resolution expressed their feeling that the presence of these nominated members was irritating and humiliating, and requested their withdrawal or the neutralization of their votes.

Turks and Caicos Islands, consisting of over 30 keys with a total area of 165 miles, have a population of 4,744. About 2,000,000 bushels of salt are raked and exported every year to the United States and British America. Sponges are exported also. The Commissioner is E. J. Cameron, who carries on the administration with the assistance of a Legislative Board of 5 members under the supervision of the Governor of Jamaica. The *Cayman Islands*, which are administered by

a commissioner directed from Jamaica, have a population of 4,322. Turtles, coconuts, and cattle are exported.

The *Bahamas* have an area of 5,450 square miles, with 54,180 inhabitants. The Governor is Sir Gilbert T. Carter. There is an Executive and a Legislative Council of 9 members each, and an Assembly of 29 members elected by limited suffrage. Nassau, the capital, situated on the island of New Providence, has 11,000 inhabitants. The Government schools had 5,772 pupils in 1899, aided schools 952, Episcopal schools 1,647, Roman Catholic schools 481, and private schools 456. The sponge fisheries yielded the value of £84,003 in 1899. Pearls, pearl and tortoise shell, and ambergris are other products of the sea. The export of sisal fiber was valued at £16,942; of pineapples in 1898, both fresh and preserved, 34,006. The post-office in 1899 carried 218,521 letters, 4,422 postal cards, and 118,018 newspapers. The revenue in 1899 was £83,055, of which £65,500 came from customs; expenditure, £69,251, of which £9,460 were for public works, £8,165 for the public debt, and 5,426 for police; public debt, £112,826. The value of imports was £329,197; exports, £169,148. The tonnage entered and cleared in the foreign trade was 979,819. The import of textiles was £60,961; of flour, £25,123.

The *Leeward Islands* have a Federal Executive Council, nominated by the Crown, and a Federal Legislative Council containing 8 nominated and 8 elected members. There were 5,070 whites on all the islands in 1891, amid 23,320 colored and 99,333 blacks. The Governor is Sir Francis Fleming. Antigua, with the dependent islands of Redonda and Barbuda, has an area of 170 square miles, with 36,819 inhabitants. Next to sugar the chief product is pineapples. The representative element in the Legislative Council was suppressed in 1898 when the Imperial Government came to the relief of the treasury. The Virgin Islands, with an area of 58 square miles and 4,639 inhabitants, have a population of negro cultivators who own the small patches of ground on which they raise sugar and cotton. Dominica, which prior to 1898 had elective members in the local Legislative Council, has an area of 291 square miles and 26,841 inhabitants. Liberian coffee is cultivated, and other products are limes and various fruits, cacao, and a comparatively small quantity of sugar. St. Kitts, with an area of 65 square miles and 30,876 inhabitants, Nevis, with an area of 50 square miles and 13,087 inhabitants, and Anguilla, with an area of 35 square miles and 3,699 inhabitants, form one presidency, having a Legislative Council of 10 official and 10 appointed members. Sugar and rum are produced in the larger islands and in Anguilla salt and vegetables. Montserrat has an area of 32 square miles and 11,762 inhabitants. Sugar, coffee, cacao, and arrowroot are produced, and there are 1,000 acres planted with lime-trees, the expressed juice of the fruit being bottled and shipped to England and other countries, as it is in constant demand, especially on shipboard. The revenue of the Virgin Islands in 1899 was £2,984, and expenditure £2,220; the revenue of St. Kitts, Nevis, and Anguilla was £42,809, and expenditure £47,415; the revenue of Antigua was £42,822, and expenditure £51,959; the revenue of Montserrat was £6,790, and expenditure £16,608; the revenue of Dominica was £26,156, and expenditure £25,083. Customs produced £732 of revenue in the Virgin Islands, £23,881 in St. Kitts, Nevis, and Anguilla, £24,174 in Antigua, £4,792 in Montserrat, and £13,700 in Dominica. St. Kitts, Nevis, and Anguilla have £74,450 of debt; Antigua, £137,271; Dominica, £70,900; Montserrat, £11,500. The

imports of the Virgin Islands in 1899 were £3,642 in value, and exports £3,867; imports of St. Kitts, Nevis, and Anguilla £148,384, and exports £159,854; imports of Antigua £115,908, and exports £128,095; imports of Montserrat £27,204, and exports £15,569; imports of Dominica £70,229, and exports £65,766. The imports of cotton goods into the Leeward Islands were £74,876; of flour, £48,549; of fish, £21,430; the exports of sugar, £230,029; of cacao, £20,372. The Imperial Department of Agriculture has conducted experiments with seedling varieties of sugar-cane in Antigua, St. Kitts, and Nevis, as well as in Barbados. The lime industry in Dominica and one or two other colonies has increased in value. Onions are successfully raised on a small scale in Antigua. An attempt is being made in several islands to raise early potatoes for the English market. Still no reliance is placed in Antigua, St. Kitts, Nevis, or even in Montserrat in alternative crops. Their hope of prosperity lies in the restoration of the sugar trade, and in these islands there is a strong desire to see established central sugar factories with modern appliances which would nearly double the quantity of sugar now extracted by old-fashioned machinery.

The *Windward Islands*, consisting of Grenada, St. Vincent, and St. Lucia, with the Grenadines, which are divided between Grenada and St. Vincent, have a common Governor, Sir Robert Baxter Llewellyn, but no common legislative body. Each island has an administrator. In Grenada, which has an area of 133 square miles and 64,098 inhabitants, the Legislative Council has 6 official and 7 nominated members. The number of children attending school in 1899 was 9,240. Cacao is the principal product, and next to that spices. Cotton and coffee have been introduced also, while the cultivation of sugar has decreased. The revenue in 1899 was £68,757, exclusive of a grant of £30,000 voted by the British Parliament; expenditure, £59,359; debt, £127,670; imports, £226,829; exports, £267,738, of which £234,611 represent cacao; tonnage entered and cleared, 464,048. St. Vincent has a Legislative Council of 4 official and 4 non-official members. Its area is 132 square miles, and its population 41,054, including 2,445 whites. Sugar and rum are still important products, but cacao, spices, and arrowroot are produced, and good timber is obtained from the forests. The cultivated land is divided between three great land owners. The revenue in 1899 was £32,210; expenditure, £48,119; debt, £10,710; imports, £103,627; exports, £33,510, including sugar for £415 and arrowroot for £22,457; tonnage entered and cleared, 245,588. St. Lucia has an area of 233 square miles and 48,650 inhabitants. The number of children in the schools in 1899 was 5,735. The revenue was £71,479, and expenditure £63,821 in 1899; debt, £187,180; imports, £282,963; exports, £98,574, including sugar for £56,793 and cacao for £25,734; tonnage entered and cleared, 1,279,353. St. Lucia in the year ending March 31, 1900, was more prosperous than at any period since sugar was supreme. The cacao-crop was the largest ever exported, and prices for this and for sugar were good. The revenue increased to £72,107, while expenditures were £64,750. The debt was reduced to £176,680. The imports were £403,592, more than half of them coming from Great Britain and a third from the United States, which has acquired the whole of the coal trade of Castries, the coaling station. The value of exports was £229,436, including £124,554 for coal.

Barbados has an area of 166 square miles, with 192,000 inhabitants. The Governor is Sir Frederic

Michael Hodgson. The Legislative Council has 9 nominated members, the House of Assembly 24 members elected by the people for each annual session. Bridgetown, the capital, has about 30,000 inhabitants. The Government schools had 14,978 pupils in attendance in 1899. The garrison in 1900 consisted of 32 officers and 815 men. Nearly the entire surface of the island is cultivated, one-third being planted to sugar, the yield of which has decreased from 66,262 hogsheads in 1894 to 43,907 in 1899. The annual produce of the fisheries is about £17,000. There were 42 sailing vessels and 3 steamers, having a total tonnage of 8,680 tons in 1899. There are 24 miles of railroad. The export of glance pitch in 1899 was 350 tons, valued at £3,500. The revenue collected in 1899 was £176,022, of which £95,687 came from customs; expenditure, £207,884, of which £22,800 were for police, £11,225 for debt, and £2,360 for public works. The total imports were £998,007; import of cotton goods, £133,424; of flour, £64,759; of rice, £45,450; of fish, £52,535. The total exports were £845,590; export of sugar, £474,009; of molasses, £109,252. In 1900 the revenue amounted to £185,474, and expenditure to £182,865. The imports amounted to £1,045,251, of which half came from Great Britain, and exports were £919,011, of which £694,038 represent products of the island. All the muscovado sugar, valued at £485,736, went to the United States. The Imperial Department of Agriculture has continued the experiments with seedling sugar-cane in Barbados. One variety which has been cultivated seven years yields 27.5 tons of cane and 3.31 tons of sugar per acre, and seems to withstand disease. Another variety from British Guiana produces in Antigua 25.6 tons of cane and 3.5 tons of available sugar. Dr. Morris, the Imperial Commissioner of Agriculture, in an agricultural conference held at Barbados in January, 1901, said that there was reasonable hope of obtaining cane that would yield 40 or 50 per cent. more cane than at present and be proof against the attacks of parasites and fungi. An improvement of 30 per cent. would place West Indian sugars on an equality with European beet-sugar in the English market. The experiments of Mr. Bovell, chief of the botanic station in Barbados, have, according to results obtained by Prof. D'Albuquerque, the head of the chemical department, already exhibited a yield 40 per cent. better than that of the favorite cane in general cultivation. The establishment of central factories is desired by the planters of the West Indies, and the British Government has considered the advisability of giving assistance by way of a guarantee or a subsidy. The experiments at the agricultural station have included trials of many kinds of manure and of leguminous crops for soiling with hopeful indications. So long as the present United States tariff remains in force the West Indian planters feel sure of a market for their sugar in the United States. Uncertainty as to the future commercial policy of the United States causes alarm. They are anxious, too, about the Canadian market, which is open now to muscovado sugar, but which may in the future receive refined sugar. The assistance which the British Imperial Government gave to the West India Islands in five years on the recommendation of the Royal Commission amounted to £320,000, not including the grants of £40,000 to Barbados, £25,000 to the Windward Islands, and £17,000 to the Leeward Islands to relieve distress caused by hurricanes.

Trinidad has an area of 1,754 square miles. The population in 1899 was estimated at 260,517.

The number of marriages was 1,243 in that year; of births, 8,922; of deaths, 6,129. The Governor is Sir Cornelius Alfred Maloney, who is assisted by an Executive Council of 7 members and a Legislative Council of 9 official and 11 nominated members. There were 24,866 pupils in 204 schools in 1899. The island contains 1,120,000 acres, of which 432,000 acres have passed into private ownership. There are 58,500 acres planted with sugar-cane, 149,800 acres with cacao, 3,980 acres with coffee, 33,100 acres with ground provisions, and 11,000 acres with coconut-trees. The quantity of asphalt exported in 1899 was 136,575 tons. There are 80 miles of railroad and 690 miles of telegraph. The revenue in 1899 was £651,135, including receipts in Tobago; expenditure, £650,750; debt, £923,416; imports of Trinidad and Tobago, £2,535,965; exports, £2,572,891; tonnage entered and cleared, 1,262,298 tons. The import of textiles was £350,453; of flour, £149,727; of rice, £104,453; export of cacao, £898,384; of sugar, £714,562; of molasses, £33,420. Tobago, now administratively incorporated in Trinidad, has an area of 114 square miles and 21,400 inhabitants. Cacao, cotton, and tobacco are cultivated, and the sugar plantations have decreased.

French Colonies.—The colony of *Guadeloupe* consists of two islands separated by a narrow channel and the dependencies of Marie Galante, Les Saintes, Désirade, St. Barthélemy, and St. Martin, the whole having an area of 688 square miles and 193,800 inhabitants, including about 15,000 East Indian coolies. The Governor is D. Moracchini. The Legislative Council is elected by the people, who are represented by a Senator and two Deputies in the French Chambers. The garrison consists of 170 French soldiers. There are 117 elementary schools, with 321 teachers and 10,979 pupils. The local revenue in 1900 was 4,968,324 francs. The expenditure of France in 1901 was 1,583,213 francs. The debt is 1,200,000 francs. The yield of sugar in 1898 was 44,840 tons; that of cacao in 1899 was 915,530 pounds, and of coffee 1,742,240 pounds. Bananas, yams, manioc, tobacco, and corn are raised for local consumption. The total value of imports in 1899 was 18,451,000 francs, and of exports 18,251,000 francs. Of the imports 13,286,000 francs came from France, and of the exports France took 11,032,000 francs. The number of vessels entered in 1899 was 438, of 221,303 tons.

The island of *Martinique* is represented by a Senator and 2 Deputies in the French Chambers and is administered by a Governor, G. Gabrié, with a Council-General to make local laws. The area is 381 square miles, and the fixed population in 1895 was 187,692, comprising 90,373 males and 97,319 females. There was a floating population of 1,907. Of the resident inhabitants 1,307 were born in France, 4,665 were East Indians, 5,371 were immigrants from Africa, and 432 were Chinese. The French garrison was 1,360 in number. There were 152 elementary schools in 1899, with 13,371 pupils. Sugar, coffee, cacao, tobacco, and cotton are grown for export. The value of the imports in 1899 was 27,004,526 francs, of which 13,230,726 francs came from France, and the value of the exports was 26,603,147 francs, of which 24,212,270 francs went to France. The tonnage entered was 315,509; cleared, 313,840 tons. The revenue collected on the island in 1900 was 5,729,793 francs; expenditure of France, 2,270,758 francs in 1901. The debt consists of an annuity of 95,000 francs and a loan of 1,460,000 francs.

Danish Colonies.—The islands of *Santa Cruz*, or *St. Croix*, *St. Thomas*, and *St. John* constitute the Danish Antilles. Their area is 138 square

miles, and their population is 32,786. Sugar and rum are the chief products. In 1899 the imports from Denmark amounted to 76,000 kroner, and exports to Denmark to 93,000 kroner. The imports from Great Britain were more than ten times as much, and the trade with the United States was large. The Danish Government, after negotiations extending over two years, decided to accept the offer of the United States of 12,000,000 kroner for the Danish Antilles. Copenhagen bankers and merchants desired to retain the islands for Denmark as a valuable commercial base in the event of the completion of the Nicaragua Canal. Their plans for a transatlantic steamship company and commercial enterprises on the islands did not come to maturity. A section of the population of the islands was strongly opposed to the transfer, but the most active business men and agriculturists were desirous of a commercial and political union with the United States.

Dutch Colony.—The island of Curaçao belongs to the Netherlands. It has an area of 210 square miles and the population on Dec. 31, 1898, was 29,558. The dependent island of Bonaire, area 95 square miles, had 4,829 inhabitants; Aruba, area 69 square miles, had 9,349; St. Eustache, area 7 square miles, had 1,432; Saba, area 5 square miles, had 2,779; and the Dutch part of St. Martin, area 17 square miles, had 3,577. The Governor is C. A. H. Barge. He is assisted by a Council of 1 official and 3 nominated members, to which 8 other members are appointed to form the Colonial Council. The revenue, derived from duties on imports, excise and indirect taxes, and the land tax, amounted in 1900 to 609,000 guilders according to the estimates, and expenditure to 686,000 guilders. The imports of Curaçao in 1898 were 1,960,070 guilders in value. The value of exports is not reported for Curaçao; for the other islands it was 284,954 guilders. There were 2,323 vessels, of 507,344 tons, entered at all the ports during 1898.

WEST VIRGINIA. (See under UNITED STATES.)

WIRE-MAKING. All changes in the wire-drawing industry in the year 1901 were in the way of advancement. Several new wire-mills have been built, and many of the old mills enlarged. The largest company, the American Steel and Wire Company, having a capitalization of \$90,000,000, has been absorbed into the United States Steel Corporation, but retains its name and continues business under the control of its president, W. P. Palmer, with the principal offices at 71 Broadway, New York city. The well-known Washburn & Moen wire-plant, at Worcester, Mass., one of the chief mills for specialties in steel wires, belongs to this concern. The company has built a new steel plant, a rod-mill, and a wire-mill at Phillipsdale, for the production of steel rods and wire; and has purchased the American Electrical Works, also at Phillipsdale, for manufacturing bare and insulated copper wire, and the R. H. Wolff & Co.'s plant, New York city, for flat wires and specialties in all steel wires.

The production of steel rods for wire three years in the United States was 279,769 tons in 1888; 536,607 tons in 1891; 791,130 tons in 1895; 970,000 tons in 1897; and since then more than 1,000,000 tons yearly. Great Britain now produces only 10,000 tons of steel rods and wire per annum.

In steel-wire making, manufacturers have given up the old ideas that the quality of round wire produced depended largely on the size of rod to begin with, and the number of light or heavy drafts made to reduce the wire to required sizes.

The tensile strength is found to depend mainly on the amount of reduction from the rod or annealing-point, and not on the number of light or heavy drafts, which make less difference. For fine sizes of wire the smallest size rod obtainable is the best to use, as it is the nearest to the finished size, and therefore costs the least for drawing. This size is No. 8 Washburn & Moen gage—the gage adopted as the standard for the American Steel and Wire Company's mills. Smaller gage rods can be rolled, but they are not exact enough as to size. For special wires, especially high-carbon steels, this small size, No. 8 rod, is much in use, but less frequently for the low-carbon steels used for fencing and market wires. The demand for rods is beyond the capacity of the rolling-mills, and the production, when using No. 8 rod, entirely inadequate. Most of the large mills making rods for fence, nail, and market wires, for this reason, roll No. 5 rods. Larger sizes are rolled when wanted, and rods or wire can be drawn through a die $1\frac{1}{4}$ inch diameter. Low-carbon basic or Bessemer steel rods $\frac{3}{4}$ or 1 inch diameter can be reduced to wire in one draft of $\frac{3}{8}$ inch, but a little harder steel, of 0.12 to 0.15 per cent. carbon, is reduced only $\frac{1}{16}$ inch in one draft, as a heavier draft would make it so hard it would not mill and turn freely for such uses as screw-making. For these large sizes a rod is used that can be finished in one or two drafts. Two drafts are often necessary to make the wire accurate in size, and to remove all pits, seams, slivers, and other surface defects. The amount of reduction at each draft is gradually lessened as wire becomes smaller. At Nos. 5 to 12 the reduction is not often more than two sizes for one draft, at Nos. 14 to 20 it may be $1\frac{1}{2}$ size, and for smaller wire one gage number at a draft, or for Nos. 20 to 30 there may be only six drafts altogether.

For low-carbon steel one annealing is considered sufficient in reducing wire from rods to No. 20, and this annealing may be from No. 12 to No. 18, according to the hardness wanted at finished size. For reducing to No. 30 one more annealing is often made. High-carbon tempering steels require more frequent annealing, steel 0.75 carbon and over being especially hard to reduce to medium and fine sizes of wire without frequent annealings.

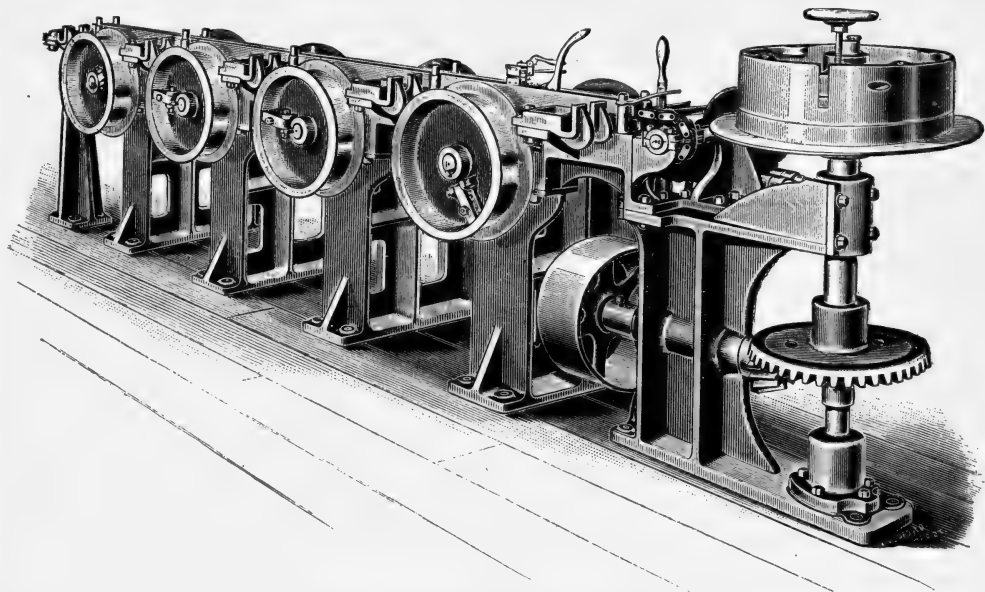
The steels used for wire range from 0.05 carbon to 1.50 per cent., but there are really only two classes—first, the high-carbon steels, 0.40 carbon and over, which are all tempering steels, used for wires to be tempered after forming to shape, and also used untempered where great strength is wanted, as for rope and piano wires; second, the low-carbon steels, nearly all 0.08 to 0.12 carbon, which are used for fence, nail, and market wires, and are also by special processes made into particular wires, pin, hairpin, broom, mattress, bolt, nut, screw, bookbinder, weaving wire for screens, and a large variety of other wires for forming into wire goods, or any bending and twisting use, but not specially for high tensile strength.

The weight of the coil of rod used has been increased from 150 pounds, which the wire-drawer could conveniently lift, to 200 and 250 pounds, and occasionally 300 pounds. The latter are difficult to handle in transferring from annealing to wire-drawing room, except by machinery. They are, however, lifted off the wire-block by hand. For large sizes this coil can be drawn conveniently, but at No. 12 the length of wire becomes so great that it is cut into 100- or 50-pound coils, and by breakages in process the

weight is still further reduced; 50 to 200 pounds at No. 12 becomes 50 to 80 pound coils at No. 20, 30 pounds at No. 25, 20 pounds at No. 30, and 5 to 15 pounds at smaller sizes. Indications are that still larger coils of rods will be rolled in 1902, although it will necessitate larger and more powerful machinery in the rod and wire mill at all points where the rod or wire is coiled or lifted, in the wire-drawing, annealing, cleaning, and tempering rooms. For the users, the lengths are satisfactory except in special instances. For the fine steel wire used for kite-flying, and for deep-sea sounding, the United States Government service require an unbroken length of 5 miles, or 50-pound coils, while the factories seldom make more than 10- or 15-pound coils at the small sizes wanted. For the strong steel wire used for suspension bridges, an unbroken length of wire is required of 3,000 to 4,000 feet. No. 6 to No. 9 wire has been chiefly used, and a 250-pound coil of rods would make the lengths required. This the wire-makers could do. Suggestions have been made to use $\frac{1}{4}$ -inch wire of the same length, which would require a 600-pound coil of rod, making the usual allowance for waste and breakage in manu-

down to $\frac{1}{4}$ -inch diameter wire. For No. 4 and No. 5 rods the dies are 7 to 15 pounds in weight. For Nos. 5 to 10 wire a 5-pound die is strong enough, and for Nos. 12 to 20 a $2\frac{1}{2}$ - or 3-pound die. It is the custom in some mills to use cast-iron dies for larger sizes than No. 12, and steel dies for No. 12 and finer. For sizes smaller than No. 20 the dies weigh 1 or 2 pounds. Some of the 3-pound dies have as many as 16 holes. For fine wire special rectangular dies and flat draw-plates are also used.

For drawing wire on continuous machines it is possible to use an ordinary die for Nos. 20 to 30, but frequently a special die is made by cutting a section off a larger die, to make a square or round plate with but one hole. For sizes smaller than No. 30 a thin plate of steel may be used, $\frac{1}{4}$ inch or less in diameter, with one hole. For No. 32 and smaller diamnd, draw-plates are used. Steel dies can be made as fine as No. 36; but by the ordinary method of drilling the hole the slender drill at this size is apt to bend in drilling and spoil the exactness in the size of the hole. Steel wire can be drawn in diamonds as fine as 0.002 inch for commercial use. Smaller



TANDEM CONTINUOUS ROD-DRAWING MACHINE.

Floor-space, 14 feet by 2 feet 6 inches.

facturing. To make such large coils of cable-wire would require the special large machinery referred to for handling.

The steel wires for a suspension-bridge cable must be one continuous length, without weld, splice, or joint. Copper wire is easily welded or brazed. So also are the low-carbon steel wires. The high-carbon steels, 0.40 to 0.75, are brazed and used successfully to make long lengths of wire for stranded wire-ropes, but would not be considered safe to use in a suspension-bridge cable, where the wires are laid parallel, and therefore each wire must be from an unbroken coil of rod.

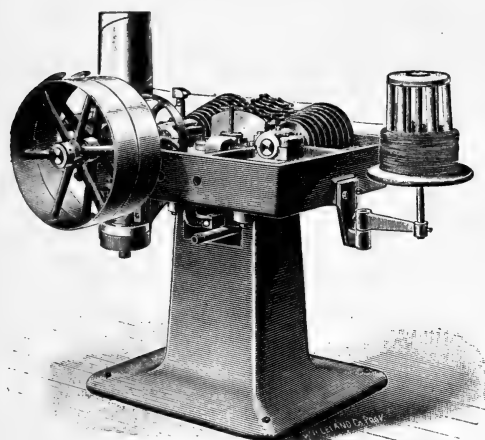
Steel dies may be used for drawing all sizes of steel wire, but for large sizes cast-iron dies are commonly used. The largest dies weigh 30 pounds, are rectangular, and are pierced with 4 to 6 holes. These are used for drawing 1-inch

wire than this has been drawn only in very small quantities.

The diamonds used for draw-plates are not equal in value to those used for jewels. What is wanted for a draw-plate is a flat diamond $\frac{1}{8}$ inch thick, and $\frac{1}{4}$ to $\frac{3}{8}$ inch diameter, either round, square, or triangular, but any shape can be used than can be drilled without breaking. For this use the slabs, cleavages, and endings which are made by the diamond-cutter in shaping large diamonds make the best draw-plates. They can be used unpolished or polished, are of the right shape and size, and good in quality. African diamonds are used, although the Brazilian diamond, being harder, makes a better draw-plate; but Brazilian clippings are difficult to obtain. The natural stone is preferred if it can be obtained, and diamonds that are considered as blemished by reason of defective color, flaws, or foreign substances em-

bedded for jewels can be made very useful for draw-plates. Sometimes polished stones can be obtained for wire-drawing, the flaws not being discovered by the diamond-cutter before polishing. If the stone is too thick to drill and use economically, it is split in the direction of its cleavage, and made into two or three draw-plates. Thick, round stones are not preferred, as they are not broad enough in surface to split into slabs. The usefulness of the diamond for wire-drawing is more in the surface area than the thickness. To manufacture into draw-plates the diamonds are drilled, set in a soft metal setting, and encased in a holder made of brass, of the size of a half-dollar, but thicker.

They are very successfully used for drawing copper wire, and diamond dies will often last without wearing for three months, and sometimes for a year. They are used for drawing size No. 20 to 0.002-inch, the 0.002-inch being as fine as the hair of a man's head. They are less frequently used for drawing larger sizes, but a 5-



CONTINUOUS FINE-WIRE-DRAWING MACHINE.

carat die can be used for No. 16 wire, and when worn can be split to make other dies for finer wire. A 2-carat diamond may be used for drawing No. 20, 1-carat for No. 25, $\frac{1}{2}$ -carat for No. 30, and $\frac{1}{4}$ -carat for smaller sizes. This usefulness of the diamond die is equally true for platinum, brass, and other wires of soft metals or alloys.

Not so, however, with steel wire. A diamond can be used for drawing No. 32 (0.013-inch) and finer, but will last only two or three days before wearing off size or breaking. For soft steels a $\frac{3}{4}$ -carat diamond can be used where a $\frac{1}{2}$ -carat would do for copper, and for hard, high-carbon steel a 2-carat diamond is not too large for No. 32. At sizes a little larger than No. 32 the usefulness of the diamond for drawing steel wire ceases, as it is so much cheaper to draw in steel dies that the latter are always used, and the diamond would not be used even for drawing fine steel wires were it not for the great exactness in gage and roundness that is required for some wires.

One operator can draw from 10,000 pounds of $\frac{1}{2}$ -inch- to 1-inch-diameter steel wire. This is frequently drawn in straight lengths of 50 or 75 feet, on a long draw-bench, on account of the difficulty of coiling wire 1 inch in diameter or near that. A $\frac{3}{4}$ -inch rod is always drawn in coil, and an operator can take care of but one drawing-block, as there is but 266 feet to 100 pounds at this size, and this length being quickly drawn,

the time of the wire-drawer is taken up in caring for successive coils of rods and wire. At Nos. 8 to 12 wire three blocks can be cared for by one wire-drawer, as the lengths are longer, there being 3,369 feet of wire in 100 pounds at No. 12, but the production per operator is reduced to 5,000 pounds a day, owing to the increased length of wire per pound. The rods are in 24- or 36-inch coils, and the large-size wires in 22-inch coil. At No. 14 the diameter of the coil is reduced to 16 inches, and at No. 20 to 8 inches. With these 8-inch coils, at Nos. 20 to 32, one man can easily take care of 30 drawing-blocks, and in some mills more, but there is a great length of wire per pound, and the coil of wire on each block has to be changed only once or twice daily. The weight of the coil of wire by the time it has been drawn to No. 32 is reduced to 5 to 15 pounds, which is all that can be conveniently handled by present processes, as there is at No. 32 about 2,288 feet in 1 pound of wire.

For the small sizes there is another method of drawing known as continuous wire-drawing, by which the wire is drawn through 5 to 10 dies, with a roll or winding-block between each 2 dies, before being finally wound on the coiling-drum. Steel wires are successfully drawn on these machines at Nos. 30 and finer, and can be drawn as coarse as No. 20, or larger, but progress is being made very slowly in this direction. For softer metals, like copper, the continuous wire-drawing machine is a greater success, and not only fine sizes are drawn, but also sizes as large as $\frac{1}{4}$ inch to No. 12. Although the production of wire by one operator daily is larger than by the ordinary method, the difference is not so great as might at first appear. Where a wire-drawer takes care of 30 ordinary blocks for drawing fine steel wire, he will by the continuous method have the charge of 2 machines, with 5 to 10 blocks on each machine. For drawing special wires, like music-wire, where there is more care and expense in manufacturing, and the wire-drawer not allowed more than three or four blocks, if the continuous plan can be used, the difference in production is more in favor of the continuous wire-drawing, yet for such very hard steel as music-wire only the finest sizes, that are used for guitars and mandolins, are made in this way.

Progress in manufacturing is being made in all processes. The greatest necessity is felt for doing away with the sulfuric- and muriatic-acid cleaning processes for steel wire, and experiments are being made to attain this. The speed at which wire can be drawn appears for the present to have reached its limit for steel at 40 to 60 revolutions a minute for No. 12 to 20 wire, the large size in 22-inch diameter coil, and the small size in 8-inch coil, as at faster speed the wire is likely to have a scratched surface and to break; but for copper wire there is little doubt that much higher speeds can be obtained.

The demand for all descriptions of wire continues to increase. For trolley and telephone purposes, copper wire is always used where possible; but where greater tensile strength is required steel is used for telegraph and telephone lines. There is a demand for a stronger wire than copper that will have nearly the same electrical conductivity, but experiments to produce such a wire with alloyed copper have not been sufficiently successful to warrant its use in large quantities. Silicon bronze for the same use is much more popular in Europe than in the United States. In steel, barbed-wire fencing is not sold in the Western States so much to the exclusion of other fencing as was the case a few years ago, but there is a

continually increasing demand for field fencing without barbs. The field fencing is built from 20 to 55 inches in height, and may have as many as a dozen wires strung laterally, the top and bottom being frequently of two large wires twisted into a cable. Upright picket wires are used 6 to 12 inches apart, and the fencing can be manufactured the same as wire netting, with a large mesh. The demand for barbed wire for export is larger than ever. It has the same popularity for large ranches in Mexico, Brazil, and other parts of South America that it had in the United States for twenty-five years. It is also exported to Australia, Africa, and East India.

For resistance wire a very good nickel-steel is now being made in the United States. Other alloys are imported for the same use, but all are high-priced, and the large electrical manufacturing companies are still seeking for a good resistance wire that they can afford to use in apparatus sold at moderate prices. The same is true of the wire of which a small piece is used as a holder for the gas mantles that are now used everywhere. A wire is wanted for the gas mantle that, when

heated, will not oxidize and so in time wear away by corrosion, as would be the case were steel wire used. At first a pure nickel wire was used, and this was satisfactory, but with the large quantities now sold, and the lower prices prevailing, a cheaper wire is wanted, and different alloys are being used experimentally to meet the demand.

For special steel wires the ordinary tests are generally limited to the tensile strength or breaking weight, the elongation, and the number of twists, and the bends that can be given. The test for elastic limit is seldom made by practical wire makers, and then only when demanded by the buyer's specifications, and neither is the modulus of elasticity taken into consideration. Tests for compression or hardness are seldom asked for, and no testing-machines can be found in the wire-factories to make these tests. New testing-machinery, however, is being invented and used, but it is chiefly for wires that are cut to different lengths, and made up into finished articles used in large quantities, such as round and flat springs.

WISCONSIN. (See under UNITED STATES.)

WYOMING. (See under UNITED STATES.)

Y

YACHTING IN 1901. It is not to be denied that steam and electricity and the other artificial agencies gain in popularity every year among those who seek recreation upon the face of the waters, and who can command the wherewithal to pay expenses. Nevertheless, a certain charm belongs exclusively to sailing craft, be they large or small, and can never be wholly taken away from them by any merely mechanical device. Occasional items may appear in public print regarding elaborate social entertainments on board of the large steamers belonging to leaders of fashionable shore-going society, but the only yachting events worth mentioning and which really attract general attention are those that are confined to sailing craft. Now and again mention is made of some trial of speed between steam-yachts or gasoline launches or what not, but the only contests that really arouse popular interest are those where the free winds of heaven furnish the propelling power and where real sailormen, be they amateurs or professionals, do the work. To witness such contests luxuriously appointed pleasure craft assemble from the "seven seas," and huge excursion steamers packed with humanity jostle one another for vantage-points of observation. All this goes to show that the lavish luxury of the age has not yet eliminated the popular love for and admiration of the more daring and adventuresome features of yachting.

Of all the yachting events that command the most wide-spread interest the international contests for "the America's cup" easily hold the foremost place. The story of this famous trophy has been so often told and retold that to those who take an interest in such matters it seems superfluous ever to repeat it again, and yet every recurrence of a cup race brings to the front tens of thousands of readers who seemingly never heard of it before. For this reason and because an interesting series of races occurred in 1901, a brief review is appropriate at this time.

Half a century has now passed since Aug. 22, in 1851, when the schooner-yacht America won the silver cup that bears her name from a squadron of 18 vessels fairly representing the swiftest sailing craft of the British Isles—that is to say, of the Old World, for until that time British yachtsmen

acknowledged no rivals worth the name. The year was especially notable because of the World's Fair in London, the first great exposition of the kind ever undertaken upon a really comprehensive plan. At that time Britannia held practically the monopoly of yachting. Continental yachts and yacht-clubs were at that time very few, and though the American merchant marine was a formidable rival to that of Great Britain on the high seas, still American yachts were almost unknown beyond the seas, for only two of them had as yet crossed the ocean—namely, Cleopatra's Barge, a large brig owned and commanded by Capt. Crowninshield, of Salem, and the sloop Alice, of Boston. Neither of these was designed for racing, the first-named being something of a freak with sundry not altogether shipshape eccentricities of rig and equipment. She was fitted out with all the luxury attainable at that period, was a fast sailer, and attracted a deal of attention at the various European ports which she visited, counting kings, princes, nobles, and other distinguished personages among her visitors. The Alice was out merely for an unpretentious pleasure cruise, and fulfilled her mission so far as is known to the satisfaction of all concerned.

Americans had their private boats, sailing craft, and barges propelled by oars—the predecessors of naphtha launches of to-day—as soon as prosperity began to establish itself along the coast of the Western Continent. Southern planters along the Carolina sounds and on Chesapeake Bay, with shipping merchants of the Northern coast cities, were among the pioneers. In those days when roads were few and well-nigh impassable, and when only the rudest habitations existed a few miles back from navigable water, it was essential for travelers to have means of communication along the shore, and a large fleet of well-equipped pleasure boats existed in the colonial days. It is of record that yachts became privateers in the early wars, and it is even suspected that some of them were not above piracy and the slave-trade in times of peace. This is true not only of American, but of British yachts, a famous instance in point being that of Sir James Brooke, who no longer ago than 1840 went a-yachting in Eastern seas, landed on the coast of Borneo, and, seconded by

his numerous and well-armed crew, set up a principality at Sarawak, where his nephew, Sir Charles Brooke, still reigns in his stead, and is recognized by the world at large as the head of an independent state. This is probably the most distinguished incident of a yachtsman accomplishing the conquest of a foreign land, and, indeed, Sir James Brooke was at one time in danger of a parliamentary investigation, the charges against him bearing a very strong resemblance to charges of piracy on the high sea. He succeeded, however, and was largely instrumental in suppressing the Malayan pirates who in the middle of the last century were the terror of the Eastern Archipelago.

It is undeniable that a vast number of Americans look upon yachting with complete indifference, not to say disdain, as a phase of modern luxury interesting only to the very wealthiest classes, who alone can afford to engage in it. This view is not unnatural considering the extent of our inland territory, nor can it be denied that many persons calling themselves yachtsmen contribute by personal example to the cultivation of seamanship. It should in fairness be admitted, however, that the modern yacht squadron affords a most efficient training-school for a considerable army of seamen and engineers, and even in its luxurious features it is of direct advantage to a large class of workers.

It is within the memory of the generations now approaching middle age that the United States navy possessed not one single vessel capable of meeting on anything like equal terms any efficient member of the European squadrons then in commission. Prior to that time the predominant interests of the country were absolutely indifferent to our standing as a naval power, the coastwise States alone recognizing its importance.

It is not intended here to claim overmuch honor for yachting as a factor in the growth of the navy. Many other things contributed to it, notably the publication of Capt. Mahan's works on the development of sea power, as well as the limited but efficient influence of some few far-seeing statesmen. It is perhaps worth while to note that it became possible to secure adequate congressional appropriations for naval purposes only after yachting interests on the Pacific coast had shaken hands with those of the Atlantic across the continental divide. Interest in American seamanship spread at first along the line of the Great Lakes, and thence to the smaller ones that dot the middle West, until now almost every inland lake of navigable size and depth has its prosperous clubs of sailing yachts, and it is no uncommon thing for ambitious inland yachtsmen to send their fast boats by rail to the seacoast to try conclusions with their sisters of the salt ocean. Their records in these races are not by any means discreditible. They have not always been victorious, but have carried off many honors, and have certainly trained a large number of sailormen who, if not equal to the exigencies of ocean navigation, have at least taken the initial steps that should fit them to serve the country afloat in case of need. It is not too much to claim that the love of adventurous seamanship cultivated by this means had much to do with securing the legislation that gave us the nucleus of a navy when we found ourselves suddenly confronted by Spanish fleets of unknown powers in 1898. Since then there has been no question in the popular mind as to the necessity of a navy, and few will deny to the yacht-clubs such credit as may be their due as training-schools for the practise of seamanship.

And not only this, when the sudden call came for all vessels that could be made available for

war service the Government found between 20 and 30 large steam-yachts that could readily be converted into gunboats and despatch-boats, and which, in fact, did distinguished service in the war that followed, one of them, the Gloucester, commanded by Lieut. Richard Wainright, not hesitating to encounter single-handed two of the dreaded Spanish "destroyers," both of which were sent to the bottom of the sea, mainly if not altogether by her impetuous attack.

There were no organized yacht-clubs in this country until about 1842, when one was established at Hoboken, which subsequently developed into the New York Yacht-Club, and sailing races began to attract the attention of all people who were interested in nautical affairs. In the British Isles yachting had long been firmly established as a popular recreation among the aristocracy and the moneyed classes. In those days transatlantic travel was as nothing compared with its present volume, and to say that in 1850 a dozen British yachtsmen were aware that such a thing as a Yankee yacht was afloat would probably be in excess of the truth.

Certain it is, according to the testimony of Mr. George R. Schuyler, that no official invitation was sent to American yachtsmen to compete in any regattas, and it was not until the America was nearly ready to launch that the Royal Yacht Squadron, through its commodore, offered to the owners the hospitalities of their club-house, a vague rumor having reached England that a schooner was building with a view to visiting British waters.

Such invitations as were sent out to the few yachtsmen in the rest of the world to try conclusions with their British brethren were more like invitations to come up to the Solent and be beaten than like anything that contemplated the chances of an equal contest. The British yachtsman not unnaturally considered himself the only yachtsman in existence, for then even more positively than now the belief that Britannia ruled the wave by divine right was prevalent in England. During the year that elapsed before the opening of the exposition rumors reached the Royal Yacht-Club at Cowes to the effect that the schooner building in America was on the lines of the famous New York pilot-boats, with all the improvements that could be devised by her famous designer and builder, George Steers.

In due time she appeared, having made a swift passage across the North Atlantic, and anchored a few miles from the rest of the fleet off the Royal club-house at Cowes. A cutter was sent down to welcome her and offer the hospitalities of the club, and the next day Commodore Stevens, who was in command, made sail to go up to the anchorage. Most unfortunately for his purposes he did not hold his boat, as it were, in leash, and the result was that she simply ran away from everything that came near her, and when she dropped anchor in the downs all British experts who had watched her performance were so thoroughly astonished thereby that they would have nothing to do with her. No opportunity could be found to race until the day fixed beforehand for the great regatta, and although Commodore Stevens was very much annoyed by this lack of enterprise on the part of his antagonists, he decided at the last moment to enter the race. After all the rest of the fleet had got under way the America made sail with great smartness, and in the course of an hour or two had passed through the entire fleet, leaving everything behind her, and at one time was so far in advance of the squadron that not another vessel was in sight. After this she



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Shamrock I.

Columbia.

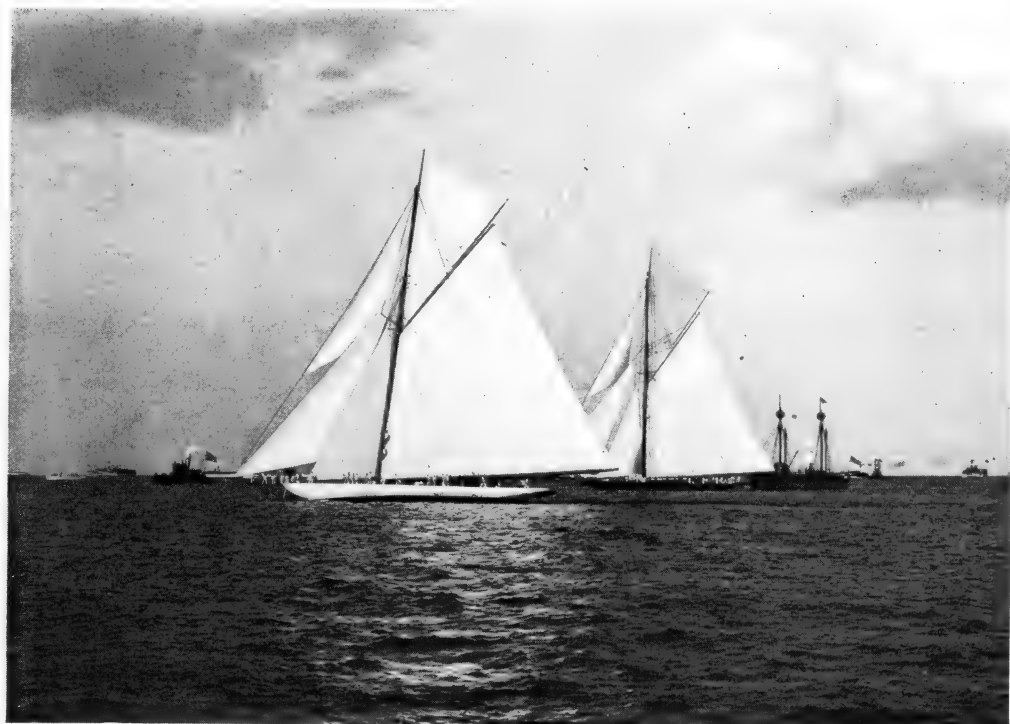
YACHT RACE, NEW YORK BAY.

was becalmed for a while, but finished far in advance of the rest, and established beyond question her reputation as the fastest sailing vessel afloat.

If it had been difficult to secure a worthy antagonist before this it was impossible now. Commodore Stevens posted a notice in the Royal clubhouse at Cowes offering to race anything for any sum up to 10,000 guineas, but he was able to obtain only one chance, and that appeared to have

absolute impartiality and apparently at their own sweet will.

With such a reputation as she had gained, the America was easily sold to a British purchaser; her name was changed, and for several years she flew British colors, but never distinguished herself under alien management as she did when manned by a Yankee crew. Eventually she fell into the hands of the Confederates, was used early in the civil war for blockade-running, was captured



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COLUMBIA AND SHAMROCK II.

been brought about only in consequence of the general howl of derision that went up from all over the United Kingdom at the expense of the champion yachtsmen of the world, who were apparently afraid to risk the reputations of their boats against the only worthy antagonist that had ever crossed seas with a view to giving them a contest.

So wide-spread was the indignation that a deputa-tion of local fishermen is said to have waited upon the yachting authorities and offered, if the gentlemen would put up the money, to take the best cutter that could be found and race her (the America) to Cape Clear and back, "and the harder it blows the better."

The nearest approach to such an ideal contest as this was found in the Titania (Robert Stephenson, Esq.), and the conditions were fairly favorable, for the course was laid 20 miles to sea in the face of what is described as "heavy weather." The America came out handsomely a winner, as, indeed, everybody expected she would do, considering her size and weatherly qualities. But other races were not forthcoming, and the Americans were obliged to content themselves with attending such regattas as they chose merely as spectators, sailing around victors and vanquished alike, with

by the Federals, and remained in the United States navy for some years. She was finally purchased by the late Gen. Benjamin F. Butler, and upon his death became the property of his son Paul, who takes pride in keeping her in seagoing trim, and who last summer entertained on board as a guest Sir Thomas Lipton, owner of Shamrock II, the last challenger for the cup. It speaks well for American builders of half a century ago that a vessel stigmatized in her day as unseaworthy owing to purposely light and flimsy construction should still be afloat and capable of giving a good account of herself, even when compared with the latest achievements of naval architects.

By tacit consent the handsome silver cup then won by the America was rated high above all similar trophies in the world, and at an early date came to be somewhat inappropriately termed "the blue ribbon of the seas." In 1857 the owners of the America executed a deed of gift whereby the cup was given over to the New York Yacht-Club, to be held as a perpetual challenge prize open to all nations under certain specified conditions.

Not until twenty years had passed was an attempt made to win back for England the coveted trophy, but since that time at irregular inter-

vals challenges have been received and races have been sailed, as shown by the following list, the victory in every case remaining with the American yacht or yachts, for in the earlier races the defenders very naturally claimed the right to sail under the conditions that were observed in the original race—that is, over the usual club course, and with practically their whole fleet in reserve.

These challenges and the contests which followed were not accomplished without much correspondence, several new deeds of gift, and the institution of various changes in the sailing conditions and in the general management of the races, which were in the interest of fair play. It is not necessary here to review these readjustments in detail, but some of them were very unpleasant, and threatened at the time to put an end permanently to all international contests of this character. In the end, however, a mutual agreement was reached, and where the challenger is of a fairly reasonable disposition, as has usually been the case, there is small danger of future misunderstandings.

The changes that have taken place since 1851

hoped that eventually some more rational method will be devised to meet the conditions for international racing. At present it is a contest of skill between the builders which shall come nearest to building a craft that is unseaworthy and yet sufficiently staunch to outlive the strains of a few sharply contested and possibly stormy events.

In the matter of models and rig, the designers of the two countries, starting with very different notions, now turn out boats so nearly alike that only an expert can see any essential difference when they are sailing side by side. The partisans of each country claim that the other has appropriated their ideas, but the controversy involves so many nice points that it can not be exhaustively considered here.

The races of 1901 are remarkable in several ways. The challenger was Sir Thomas W. Lipton, who had challenged and raced in 1899, when Shamrock I was defeated by the Columbia. It was therefore his second experience in racing on this side the water, and judging by the results of the races, which were very close, he may have profited by his earlier defeat.

DATE.	Course.	American yacht.	Min. and sec.	English yacht.	Min. and sec.	Result.
I. 1851. Aug. 22	Around Isle of Wight.	America.	10.37.00	Aurora.	10.55.00	American won by 18.00.
II. 1870. Aug. 8	New York Y. C. course.	Magic.	3.58.26 ³ / ₅	Cambria.	4.37.38 ³ / ₅	American won by 39.12.
" Oct. 16	New York Y. C. course.	Columbia.	6.19.41	Livonia.	6.46.45	American won by 27.04.
" " 18	20 m. windward and back.	Columbia.	3.07.42	Livonia.	3.18.15	American won by 10.33.
III. 1871 " 19	New York Y. C. course.	Columbia.	4.17.35	Livonia.	4.02.25	English won by 15.10.
" " 21	20 m. windward and back.	Sappho.	5.39.02	Livonia.	6.09.23	American won by 30.21.
" " 23	New York Y. C. course.	Sappho.	4.46.17	Livonia.	5.11.44	American won by 25.27.
IV. 1876 Aug. 11	New York Y. C. course.	Madeleine.	5.23.54	Countess of Dufferin.	5.34.53	American won by 10.59.
" " 12	20 m. windward and back.	Madeleine.	7.18.46	Countess of Dufferin.	7.46.00	American won by 27.14.
V. 1881 Nov. 9	New York Y. C. course.	Mischief.	4.17.09	Atalanta.	4.45.39 ¹ / ₂	American won by 28.30 ¹ / ₂ .
" " 10	16 m. leeward and back.	Mischief.	4.54.53	Atalanta.	5.33.47	American won by 38.54.
VI. 1885 Sept. 14	New York Y. C. course.	Puritan.	6.06.05	Genesta.	6.22.24	American won by 16.19.
" " 16	20 m. leeward and back.	Puritan.	5.03.14	Genesta.	5.04.52	American won by 1.38.
VII. 1886 " 9	New York Y. C. course.	Mayflower.	5.26.41	Galatea.	5.38.43	American won by 12.02.
" " 11	20 m. leeward and back.	Mayflower.	6.49.00	Galatea.	7.18.09	American won by 29.09.
VIII. 1887 " 27	New York Y. C. course.	Volunteer.	4.53.18	Thistle.	5.12.41 ¹ / ₂	American won by 19.23 ¹ / ₂ .
" " 30	20 m. windward and back.	Volunteer.	5.42.56 ¹ / ₂	Thistle.	5.54.45	American won by 11.48 ¹ / ₂ .
IX. 1893 Oct. 7	15 m. windward and back.	Vigilant.	4.05.47	Valkyrie II.	4.11.35	American won by 5.48.
" " 9	30 m. triangular course.	Vigilant.	3.25.01	Valkyrie II.	3.35.36	American won by 10.35.
" " 13	15 m. windward and back.	Vigilant.	3.24.39	Valkyrie II.	3.25.19	American won by .40.
X. 1895 Sept. 7	15 m. windward and back.	Defender.	4.59.54 ³ / ₅	Valkyrie III.	5.08.44	American won by 8.49 ³ / ₅ .
" " 10	30 m. triangular course.	Defender.	3.55.56	Valkyrie III.	Disqualified.	American won on foul.
" " 12	15 m. leeward and back.	Defender.	4.43.43	Valkyrie III.	Withdrew.	American had walkover.
XI. 1899 Oct. 16	15 m. windward and back.	Columbia.	4.53.53	Shamrock I.	5.04.01	American won by 10.08.
" " 17	30 m. triangular course.	Columbia.	3.27.00	Shamrock I.	Disabled.	American had walkover.
" " 20	15 m. leeward and back.	Columbia.	3.38.09	Shamrock I.	3.44.43	American won by 6.34.
Sept. 28	15 m. windward and back.	Columbia.	4.30.24	Shamrock II.	4.31.44	American won by 1.20.
XII. 1901 Oct. 3	30 m. triangular course.	Columbia.	3.12.35	Shamrock II.	3.16.10	American won by 3.35.
" " 4	15 m. leeward and back.	Columbia.	4.32.57	Shamrock II.	4.33.38	American won by .41 on time allowance.

in the models, rig, and equipment of racing yachts have been largely influenced by the greatly increased scale of expenditure favored by the unprecedented accumulation of wealth. Until 1885 we Americans were content to entrust the defense of our championship to the best available yacht already afloat. The challenge of the Genesta, a large cutter (a single-masted vessel, that is), made it necessary to build something capable of meeting her on equal terms. The result was the Puritan, the first conspicuous success of the late Edward Burgess, of Boston. She was a comparatively shallow centerboard sloop, which won handsomely from the deep-draft cutter that had crossed the ocean to meet her. Since then every challenge has been followed by the construction of one or more 90-foot "single-stickers," as they are called—merely great racing-machines that have to be made over in framework and rig to be of use in ordinary cruising after their special mission in defending the cup has been fulfilled. It is

To meet Shamrock II, the challenger for 1901, a new boat was built by the Herreshoff Brothers, of Bristol, R. I., and named the Constitution. The two-year-old Columbia, winner of the last preceding of the national races, was put in commission to set the pace for the new boat, which was intended to be faster than her younger sister, and Capt. Urias Rhodes, a veteran Yankee skipper, was placed in command, partly out of deference to a popular demand. In point of fact, the Columbia played her part of pacemaker so effectively under her former sailing-master, Capt. Charles Barr, that she beat the Constitution to the satisfaction or the dissatisfaction of the committee having the matter in charge, and was chosen to defend the cup for the second time, as the new boat did not succeed in proving her superiority. An element of international interest was lent even to these preliminary trials, for Capt. Barr, though a naturalized citizen of the United States, is Scotch by birth, and won his

first laurels in British waters, while Capt. Rhodes, who commanded the Constitution, is a native-born American. There was wide-spread patriotic dissatisfaction over the selection of Capt. Barr to defend the cup in 1899, and many Americans still feel that they would rather suffer defeat with a Yankee skipper at the helm than win the day with a foreigner. The sentiment is not altogether to be deprecated, considering the peculiar international rivalries inseparable from the contest, but Capt. Barr has certainly justified the confidence that was placed in his professional skill, and a great many competent judges are disposed to rank him as really the most skilful sailing-master alive for craft of this particular character.

During their preliminary trial both the Shamrock and the Constitution were totally dismasted under weather conditions that should not have troubled vessels of their class, and the race had to be postponed in consequence. A further postponement followed the assassination of President McKinley out of consideration for the period of national mourning that followed. It was not until Sept. 28 that the first race was sailed. As has always been the case in cup races, there was but little wind on some of the specified days, so that the course could not be covered within the prescribed time. The conditions called for the best three races out of five, and the Columbia, as stated in the above table, won three of them. In the third and last race the Shamrock was actually in the lead at the finish, but by so narrow a margin that her rival, the Columbia, won on time allowance, a fact that can not but detract from the triumph of the victory in popular esteem, though the technical justice of the decision is unquestionable. It would certainly seem that in a contest of such importance modern science should be able so to match the boats that they might at least be in one class together, and might race on equal terms.

Upon the whole, the cup was retained in 1901 by a margin so very narrow that the anticipated repetition of the contest in 1903 is looked forward to with increased interest. Sir Thomas Lipton has formally challenged for the third time, and as a last resort has engaged the services of the two most brilliant and experienced builders in the British Islands—Messrs. Watson and Fife—who, though they are traditional rivals, are apparently on sufficiently good terms to work together where they consider that the honor of British yachting is at stake.

It was announced early in the summer that the Emperor of Germany had ordered designs for a large schooner-yacht from A. Cary Smith, a naval architect of proved ability and a painter of marine subjects, well known among the older generation of New York artists. In due time the plans received the Emperor's approval, and the order to build was placed with the Townsend-Downey Ship-Building Company, of Shooters Island, near Elizabethport, N. J. The Emperor has long been known as an enthusiastic sailing yachtsman, having owned several of the best English-built craft, and having taken part personally in many famous regattas. That he should have chosen American designers and builders is certainly a very high compliment, and shows that he has intelligently watched the performances of our cruising yachts. If he had wanted a racing-machine like the cup contestants, he might, not unnaturally, have placed his order in England, but he appears to have an innate love for true seamanship and cruising for its own sake. The reputation of American seagoing schooners was

well known to him, and is a sufficient explanation of his choice without seeking for an ulterior political motive. The Emperor's brother, Prince Henry, was present at the launching of the yacht, and at the Emperor's request President Roosevelt permitted his daughter Alice to name the vessel with due ceremony, following the traditional practise on such occasions.

YOUNG MEN'S CHRISTIAN ASSOCIATION. The English Year-Book, Of All the Nations, published by the National Council, contains a comprehensive survey of the Young Men's Christian Association in all countries. The returns for Great Britain show 1,471 centers of work, with 103,420 members, and property in buildings owned to the value of £626,495. In 1890 the numbers were: 609 centers, 76,161 members, and buildings valued at £326,746. The numbers for the whole world were 7,207 centers, 536,916 enrolled members, and buildings estimated at £5,000,000 in value. These figures show an increase since the publication of the last previous Year-Book of 509 centers and more than 30,000 members. For several years past more than 100 young men encouraged and primarily trained by the associations of the English union alone had each year entered the Christian ministry or the foreign mission field.

The International Convention of the Young Men's Christian Association, being the fiftieth or "Jubilee" convention for the United States, was held in Boston, Mass., June 11 to 17. The proceedings partook largely of the character of a review of the history of the association from its foundation in London by Mr., now Sir George, Williams, in 1844, and especially from its institution in the United States, and of its work to the present time. The first Young Men's Christian Associations in North America were organized in Montreal, Canada, Dec. 9, and in Boston, Mass., Dec. 29, 1851, independently and without the participants of either having knowledge of what the others were doing, upon the suggestion of information of the work of the association abroad. The idea was quickly taken up in other cities, and associations were rapidly formed in the United States as well as in foreign countries. The first International Conference of Associations of all lands was held in Paris, France, in 1855, when the basis of the organization was defined in the following terms: "The Young Men's Christian Associations seek to unite those young men who, regarding Jesus Christ as their God and Saviour, according to the Holy Scriptures, desire to be his disciples in their doctrine and in their life, and to associate their efforts for the extension of his kingdom among men." The work of the American associations was at first not well defined, and included much that was done by other well-organized societies, till at the convention held in Albany, N. Y., in June, 1866, the principle was laid down as governing their operations of work "by young men for young men"—primarily religious work, but to which other forms of work have been added from time to time as accessory to it. Of these are libraries and reading-rooms, social privileges, gymnasia, with provisions often for systematic physical culture, harmless games, and free instruction in various branches of learning, chiefly with practical ends in view; in short, the culture of the whole man with the main end always in sight of promoting his religious and moral development. The whole American work has now been placed under the supervision of an international committee, with State committees organized under the resolution of the Albany Convention of 1866, and district

committees of later institution. Another bond of united activity is furnished by the district, State, and international conventions. As the importance of the work of the associations increased, the voluntary helpers upon whom it was at first dependent gave way to trained secretaries who have made their work a life calling. Men were employed by the associations of Boston and New York to look after the details of their work as early as 1852 and 1853. In 1871 a conference of 13 of the officers thus employed under various designations was held, and an organization of general secretaries was formed, and general secretary has since been the title of the office. The number of these secretaries is now about 1,500. About 75 secretaries, including those laboring in foreign lands, are employed by the International Committee. A training-school for general secretaries and physical directors or trainers in physical culture was established in Springfield, Mass., in 1885, and afterward another one in Chicago, Ill. As the functions of the associations have been extended, it has been found expedient to institute several branches and departments, with the work specially adapted to the needs of men of different callings and spheres of life, the history and functions of which have been briefly set forth by the Rev. Edwin F. See in the Boston Congregationalist. In the beginning the chief and practically only work of the associations was with clerks and mechanics in the cities and towns, and a large proportion of the associations in the country are of that kind, and are cared for, as a whole, by the field secretary. In 1872 attention was called to the railroad men of the country as constituting a field calling for a special adaptation of work; and the railroad department was instituted. It has had a vigorous growth, and now includes, according to Mr. See, about 150 associations at railroad centers. According to the report of the International Committee to the present conference, "it alone has furnished over 50 per cent. of the growth during the past two years in the total number of associations of all kinds in North America and over 24 per cent. of the total increase in membership." The students' department was organized in 1877, largely through the instrumentality of Mr. Luther D. Wishard, and is represented in nearly 600 institutions, while the World's Student Christian Federation comprehends representatives from nearly all the countries of the globe. Special work for colored men was begun in 1888. Important work was done among the soldiers and sailors of the United States during the civil war, and was most prominently exemplified in the services of the Christian Commission. It assumed a more systematic and permanent form in 1898, and has been extended to military and naval posts and Government reservations at home and abroad. Two important centers of it are the building erected by Mr. William E. Dodge for the soldiers on Governors Island, New York harbor, and that built by Miss Helen M. Gould for the sailors near the entrance to the Brooklyn Navy-Yard. Twenty army branches have been established. The work with boys carried on for many years by the association had been put under the charge of an international representative during the past year. Special buildings have been set apart for boys in New York city and in Cleveland, Ohio. Work for young men in missionary lands, which has been carried on for about fifteen years, is represented by about 20 agents in Brazil, Ceylon, China, India, and Japan.

The international convention in Boston was attended by 2,101 fully accredited delegates and cor-

responding delegates, of whom 187 were from foreign countries, including, besides Great Britain, its colonies and India, Holland, Italy, France, Austria, Finland, Russia, Switzerland, Germany, Belgium, Norway, Sweden, Spain, Portugal, Brazil, China, Japan, Denmark, and Cuba; 94 from the Canadian provinces; and 1,921 from the United States. Mr. William E. Dodge, of New York, was chosen president of the convention. Congratulatory messages were read from the President of the United States, the King of Great Britain and Ireland and Emperor of India, the Emperor of Germany, the King of Italy, the Synod of Russia, Lord Roberts, and the German ambassador at Washington. The International Committee reported the following statistics for 1901: Number of associations, 1,404; of members reported, 268,477; of buildings owned, 391, valued at \$22,733,400; of general secretaries, 1,522; of volumes in libraries, 523,215; of educational classes, 2,060, with 26,906 students; of attendants on religious meetings, 2,720,221; of student associations, 577; of colored men's associations, 88; of Indian associations, 44; of boys' departments, 401; expense of home work, \$136,761; expense of army and navy work, \$36,298. It was represented in the report that the association was now more fully anchored in the confidence of the community and the churches than at any previous time. Its most important and aggressive work was in the cities, but the report set forth that, in strong contrast with this city association growth, an apparently opposite tendency was discovered to decline and loss in some of the smaller cities of 5,000 population and less, and in the country neighborhoods generally. In the smaller communities associations had from the beginning shown a tendency to decay and revival. Not less than 100 associations were organized each year and a somewhat larger number were out of existence, so that during the past five years associations in the small towns had shown a net loss of about 200. Measures had been adopted to counteract this tendency by the formation of local "sections" or "bands" under the direction of several of the State committees, whose names did not appear on the rolls of the associations, although they were really doing association work; and in the organization of county organizations. "The encouraging growth of the State organizations is, however, a strong factor tending to develop all parts of the American association movement." Among the addresses delivered at the meetings of the convention were those on Great Facts in the Half Century of Work of the Young Men's Christian Association in North America, by Col. John J. McCook, of the railroad department; The Contribution of the Association toward the Solution of the City Problem, by the Hon. Herbert B. Ames, of Montreal; The Contribution of the Young Men's Christian Association to the Welfare of the Commercial and Industrial Classes, by E. L. Stacy; its Contribution to the Physical Development of Young Men, by President G. Stanley Hall, of Clark University; its relations to the churches, by President W. H. P. Faunce, of Brown University, and President Francis E. Clark, of the United Society of Christian Endeavor; The Fundamental Principles of the Young Men's Christian Association, by the Hon. Cephas Brainerd; addresses on religious life, by the Rev. E. I. Bosworth, D.D., the Rev. W. W. White, D.D., Mr. W. D. Spear, and Principal Caven, D.D., of Knox College, Canada; The Need of a More Aggressive Warfare against the Forces which are Destroying Young Men, by the Rev. J. M. Buckley, D.D.; The Boy, by the Rev. Dr. J. H. Can-

field; The Seven Million Young Men of our Small Towns and Country Districts, by President W. F. Slocum, of Colorado College; and a Jubilee Address, by Mr. J. H. Eckels. On College Men's Night addresses were delivered by President F. L. Patton, of Princeton University, President Cyrus Northrup, of the University of Minnesota, and President Booker T. Washington, of Tuskegee Normal and Industrial Institute—all on the subject of The Contribution of the Association to the Moral and Religious Life of our Universities and Colleges. On Army and Navy Night, the addresses were by Gen. Curtis Guild, presiding, Major-Gen. Joseph Wheeler, Mrs. E. A. McAlpine, of the Woman's Auxiliary of the International Committee, Admiral Watson, Capts. A. V. Wadhams and Hobson, and Admiral Higginson. On Railroad Night, Col. J. J. McCook presided, and President Tuttle, of the Boston and Maine Railroad, made the address. Three Sioux Indians spoke of the work of the associations among their tribes, which was represented by 8 branches, with 1,700 Indian members. The foreign work was the main subject of the farewell meeting, at which addresses were made by delegates from Japan and India, and by Mr. J. R. Mott; a collection of \$15,000 was taken for the cause; and an engraving from Bouveret's painting of The Institution of the Lord's Supper was presented to the convention by M. Jules Siegfried, of the French associations. The work of the International Committee in all its departments was commended by the convention, and its continuance on the lines marked out in the report was directed. In the resolutions the Athletic League was cautioned to guard with especial care "against excessive competition and the evils which too often arise when a desire to win is substituted for earnest exercise and friendly rivalry"; and the advice of the convention was given "that all possible endeavors be made to foster and stimulate the work among boys, in recognition that there is no more important work before the association." More than half of a Jubilee fund of \$1,000,000, authorized by the previous International Convention, at Grand Rapids, Mich. (1899), had been secured. Estimates were made that not less than \$160,000 would be required annually hereafter for the association's work in the home field and \$60,000 in the foreign field, "with such other and further amounts as may be called for by the extension of the work on the lines already authorized." For the past year \$16,000 had been received from associations and \$120,000 from 4,500 individuals. A committee appointed at the Grand Rapids convention in 1899 to consider means by which the relation of the international, State, and local associations, and the functions of each supervising agency may be more clearly defined, was continued. An exhibit illustrating various aspects of the history and work of the associations was given in connection with the meeting of the convention. The final exercise of the jubilee was an excursion to Plymouth, with an oration by the Rev. Alexander McKenzie, D. D., on The Spirit of the Puritans the Spirit for the Young Men of the Twentieth Century.

YUKON, TERRITORY OF, a northwestern territory of the Dominion of Canada; population in 1901, about 20,000. Capital, Dawson City.

Government.—The first application of direct governing principles to the territory occurred after the first rush of miners to the scene, when, on Aug. 17, 1897, Mayor James M. Walsh was appointed Commissioner of the Yukon District. On June 13, 1898, the district was formally detached from the jurisdiction of the Northwest Ter-

ritories and established as a separate territory, with Mayor Walsh as the first Commissioner. A Council of six persons was appointed by the Dominion Government to assist and advise the Commissioner, of which the judge of the territorial court should be an *ex-officio* member. Ordinances for peace, order, and good government were to be made by the Commissioner and Council within the same limits as by the government of the Northwest Territories. A superior court of record was also constituted, with the same powers and jurisdiction as the Supreme Court of the Northwest Territories, except as expressly varied by the Dominion Parliament. The Commissioner, members of the Council, judges of the court, and officers of the mounted police were to be *ex-officio* justices of the peace, though others might be specially appointed. Jurymen were limited to British subjects. The first judge of the court was Calixte Aimé Dugas, appointed on Sept. 12, 1898.

On July 4 of the same year William Ogilvie was appointed Commissioner. He resigned his office early in 1901 and was succeeded by James Hamilton Ross. The latter arrived at Dawson City on April 8. Meanwhile, on Jan. 26, 1901, the Council forwarded a petition to the authorities at Ottawa, which asked that the local council should control local affairs; that a subsidy should be granted by the Dominion Government to the Yukon territory of not less than three times the subsidy allowed to the provinces per capita, because of the population being almost entirely adult and productive; that the territory be divided into electoral districts to be entitled to representation in the local council; that the Dominion Government should look as favorably as possible upon any suggestion made by the Yukon Council, as a body, with reference to mining regulations or other matters of territorial interest; that a third judge should be appointed in the territorial court, and a court of appeal also be established; that representation in the Dominion Parliament be conferred upon the territory under the same terms and conditions as upon other outlying parts of the Dominion.

Characteristics.—The extent of the Yukon territory, as constituted by Act of Parliament, is 251,300 square miles. The climate of the country in summer is all that can be desired. The winter is very cold, as the following figures, compiled by Alexander McBean, of Dawson City, from Nov. 19, 1900, to March 10, 1901, show: November—highest, 10° below zero; lowest, 42° below zero. December—highest, 10° below zero; lowest, 52° below zero. January—highest, zero; lowest, 68° below zero. February—highest, 8° above zero; lowest, 57° below zero. March—highest, 30° above zero; lowest, 30° below zero. The winter trail from Dawson City to White Horse, the other chief settlement in the Yukon, is 369 miles long, and there are about 50 road-houses on the route. The trail on the Lower Yukon, from Dawson to Tanana, is 700 miles, and there are only 40 road-houses. From Port Simpson, British Columbia, by way of the Main Stikine river to Testin Lake, the distance is 717 miles; from Port Simpson by way of the Clappan river and Deare Lake to Teslin it is 627 miles; from Port Simpson by way of Clappan river, the cañon of Stikine, and the Tahltan river it is 706 miles; from Edmonton, Northwest Territory, via Skeena and Clappan rivers and Deare Lake to Teslin it is, approximately, 1,137 miles. The Government report for 1900 shows 112 deaths from all causes during the year. Accidents and pneumonia were the most frequent causes of death. There were 73 marriages in the year.

Transportation.—In the development of the Yukon the question of transportation is the first consideration. Four different routes into the gold-fields over Canadian soil were surveyed. There is now a railway from Skagway across the White Pass down to White Horse Rapids—about 150 miles. More important in some ways than this line of road was the establishment of steamboat navigation to the headwaters of Lewis river. In 1898 it was experimental, difficult, and dangerous. To-day steamers come and go almost daily during the season of navigation. Winter travel between Dawson and the coast, which formerly was long and arduous, is now comparatively pleasant. The question of freight, however, remains a pressing one for merchant and miner alike, and strong protests have been made against the freight-carriers, the chief offender being the White Pass and Yukon Railway. Two-thirds of the business of the Yukon formerly went to Seattle and other United States points. Since the railway was finished two-thirds of the business had gone to British Columbia.

As time passed, agitation grew, until finally a gathering of Dawson business men met the officials of the road and told them that their profits made the payment of existing high rates impossible. The increased facilities for handling goods, the great saving of time over a year or two ago, the lowering of prices for labor and supplies, the practical monopoly of the trade of Dawson and the Klondike, were reasons advanced for consideration. Despite these improved conditions, it was pointed out, the rates charged were now higher than when the means of delivery were uncertain. President Graves, of the railway, refused to consider the demand for lower rates. In 1900 the holdings of the company appreciated 70 per cent. With net earnings of \$1,500,000, their net profit for 1900 amounted to \$1,000,000. They were now buying the boat lines, and had raised the average fare from Dawson to White Horse by \$25. In 1897 the rate for freight was \$325 a ton. Now it is from \$80 to \$125. A dredge that cost, laid down in San Francisco, \$20,000, will cost the owner \$100,000 laid down in Dawson, and \$125,000 before it is in operation. The greatest volume of freight ever brought into Dawson in a single season was that of 1901. It surpassed the previous year by 4,483 tons. By the Upper Yukon, according to Dawson customs office figures, 22,597 tons were received, and by the Lower Yukon 13,930 tons. This freight comprised an unusual quantity of goods of Canadian manufacture, and the estimate of those who could best form an opinion before the details were officially published was that more than 40 per cent. of the freight was Canadian.

Mining.—The exact value of the gold production in the Klondike, or British Yukon region, is not ascertainable. The Post Intelligencer of Seattle declared that in 1900, when the Canadian officers in the Yukon reported royalties on \$11,752,560 worth of gold, the records of Dawson Custom-House brought the total to \$14,000,000 and the Seattle figures to much more. "The fact now appears that the Seattle assay office received from Klondike \$16,946,437, and sufficient bullion is known to be now lying in safe deposit in this city to advance the total to more than \$20,000,000." The estimate for 1901 was \$25,000,000. This is all from the placer mines, but quartz mines have been discovered, and these, with the new creeks constantly opening and the new and cheaper processes of working the power claims, will tend to give Dawson permanency.

Early in January the Yukon council memorial-

ized the Dominion Government for various reforms. It asked for free mining-machinery and the repeal of the law forbidding Dominion officials from holding any interest in mining properties; for the extension of time to two years in which to begin operations on *bona fide* hydraulic claims; and for various changes in the law affecting mining operations. A reduction of the royalty to 5 per cent. on the gross output was demanded; or, if that were objectionable, the establishment of a local assay office; or else the imposition of an export duty on the gold and its treatment as an ordinary article of commerce for which the person carrying it would have to pay a tax.

On March 12 it was announced at Ottawa that the Yukon royalty on gold would be reduced to 5 per cent. The Crown claims, with specified exceptions, were thrown open, and Dominion orders in Council abolished the restrictions confining a miner to one claim—allowed him to stake a claim wherever he chose and to abandon those that did not suit him, whenever he felt inclined.

The total gold production upon which royalty was collected in 1898-'99 was \$5,882,626, and the exemptions \$1,699,657. In 1899-1900 the figures were respectively \$7,307,720 and \$2,501,744.

The Assay Question.—The Yukon shared in the agitation of British Columbia for the establishment of a mint in Canada and of assay offices in the mining provinces. It was urged that the mint should be in Victoria or Vancouver. Following this action came a frequently expressed wish that a branch mint or assay office should be established in Dawson. As one of the chief ends of such an office in one of the coast cities was to handle the gold and trade of the Klondike, the suggestion was naturally not popular there, and the Vancouver World of March 1 declared that such a policy would "absolutely destroy the object aimed at," and leave the miners free to trade as they pleased with American or Canadian cities. The Victoria Colonist of April 9 argued strongly for an assay office in Dawson. It recited the varying value of gold-dust, the chances of loss resulting from it, the necessity of the banks protecting themselves, the high charges for exchange, and other obstacles in the way of business. "The banks in Dawson must charge high for remittances to the outside, for they have to be at the expense of sending out the gold, which is considerable. This expense the Government would assume if it purchased the gold in Dawson, and the Government could do it more cheaply than the banks." Eventually one assay office was established in Vancouver, and the branch mint at Ottawa.

The Labor Problem.—In July a document was published in Dawson and issued to the press elsewhere, purporting to be an appeal to the "laboring wage-workers, and to the laboring people of the Pacific slope in the United States and Canada especially." It pointed out considerations said to affect seriously the working men's position in the territory. In the first place, the \$5 a day that had been established as the minimum payable in the Yukon was the lowest possible living wage. The very greatest length of time in each year when a man could hope for employment was nine months, and the average was much below that figure. During that period his board averaged \$25 a week. The cost of other necessities was excessive. Boots were from \$10 to \$12, overalls from \$2 to \$4, shirts from \$2.50 to \$4, tobacco from \$1.50 to \$2 a pound, beer or whisky 25 to 50 cents a glass, stage fare 50 cents a mile, laundry 25 to 50 cents a piece, picks \$4 and up, shovels \$5 and up. Wages were paid in gold-dust,

which ran from 50 cents to \$1.50 less per ounce than the \$16 which the banks gave for it. The only reason they stayed in the territory was the never-dying hope which characterizes all miners. An urgent appeal was made to keep Chinese from coming to the country, and all laborers were advised to stay away from it. The object of this pessimistic and exaggerated picture of conditions is difficult to understand from a distance. In a letter written on May 27, 1901, to the Charlotte-town Patriot, by a Prince Edward Islander who had gone to the Yukon, the following statement appears: "Labor is in good demand this year; mechanics get \$1 an hour and the ordinary laborer \$5 and \$6 a day and their board; and it looks as if it would hold good for the summer. A laboring man saves money if he is steady and economical." Eggs, which once sold for \$10 a dozen, now retail for 50 and 75 cents. Meat sells at from 40 to 60 cents a pound, butter 50 cents, while potatoes, onions, beets, cabbage, and vegetables generally are fairly cheap, as they are now grown on the spot. Barley, oats, and hay are also grown successfully, but wheat has not been tried. Canned goods are sold at reasonable prices. In the Christmas (1900) number of the Klondike Daily Nugget wages are described as having come down to about \$8 a day. To offset this, all food-stuffs and other necessities are described as much cheaper. "In 1897 flour was retailed at \$60 a sack. To-day it is to be had for \$6 a sack. Other commodities have decreased in price at about the same rate."

Finances.—The total revenue in the fiscal year 1895-'96 was \$18,516. In 1899-1900 there was received from royalties, miners' certificates, mining fees, land sales, rentals, timber dues, placer grants, and similar sources of local taxation the sum of \$1,130,965; from customs duties, \$613,191; from the post-office revenue, \$21,550; from public works, \$33,716; and from fisheries, \$4,601. The total revenue for 1899-1900 was \$1,804,026, and in the four years it amounted to \$4,376,673. The

mining royalties increased from \$287,423 in 1898 to \$575,812 in 1899, and to \$730,771 in 1900. For the first six months of the new fiscal year—to Dec. 31, 1900—they amounted to \$446,184. The expenditure increased from \$32,112 in 1896 to \$1,306,949 in 1899-1900. The latter sum included \$331,850 spent upon matters connected with the mines, \$112,368 upon the post-office, \$118,544 upon public works, \$4,492,427 upon the mounted police, \$173,266 upon the militia, \$22,673 upon justice, \$24,457 upon railways and canals, \$30,561 upon customs, etc.

Law and Order.—The mounted police maintained an excellent record of work during the year 1900, according to the annual report. Weekly patrols were maintained between Bennett and Dawson; day and night patrols were kept up in Dawson and White Horse; constant patrols passed along the trains, to and from the mining camps and up and down the creeks that were being worked. In April they took a census of the whole scattered population, which was found to be 16,107 whites and 350 Indians. They aided in the work of the Crown timber and mining departments, as well as of the customs. At White Horse alone they went through 20,000 tons of freight within four months, in search of contraband liquor. The settlement of this latter place caused a small outburst of crime, and five cases of murder and one of manslaughter occurred during the year in the territory. By Dec. 31, 1900, one of the murderers had paid the death penalty, one was under sentence of death, two were awaiting trial, and the man guilty of the lesser crime was undergoing his sentence.

In February, 1901, orders were received from the Minister of the Interior at Ottawa to close up all gambling and dance houses by March 15. These instructions involved about 300 persons, who, however, had been expecting something of the kind and were not taken by surprise. The time was subsequently extended to June 1, and on that date the persons concerned departed.

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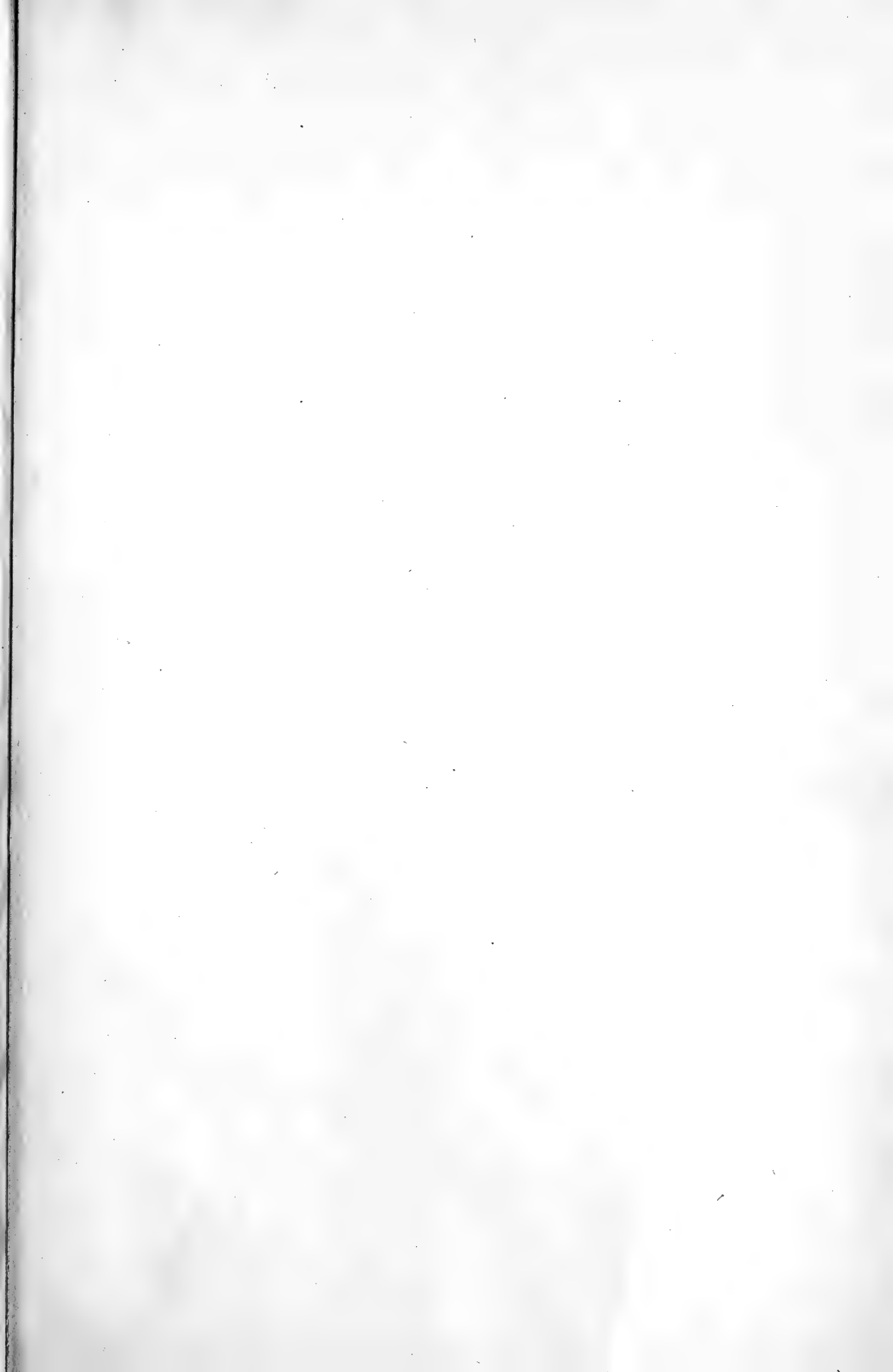
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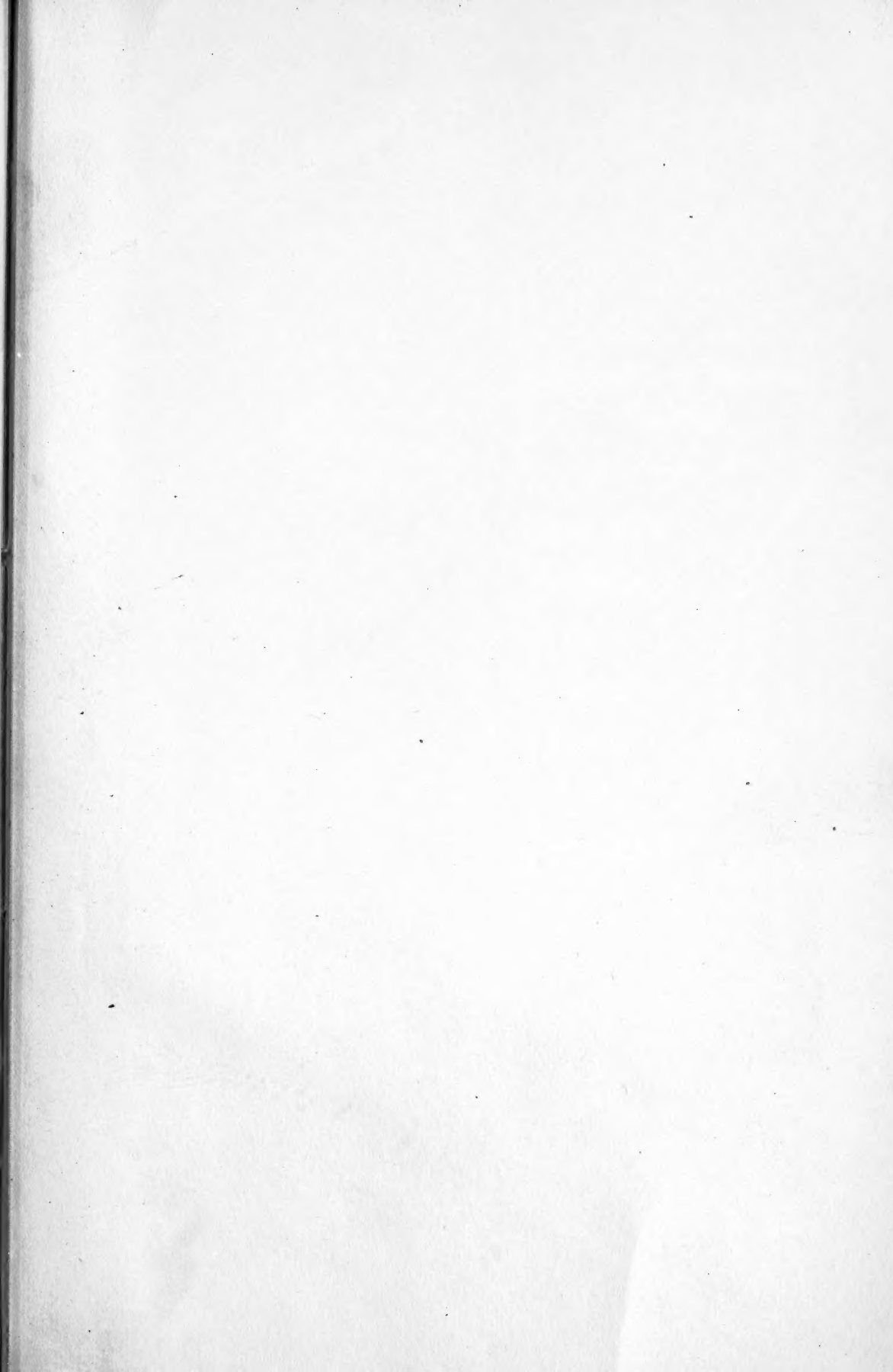
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